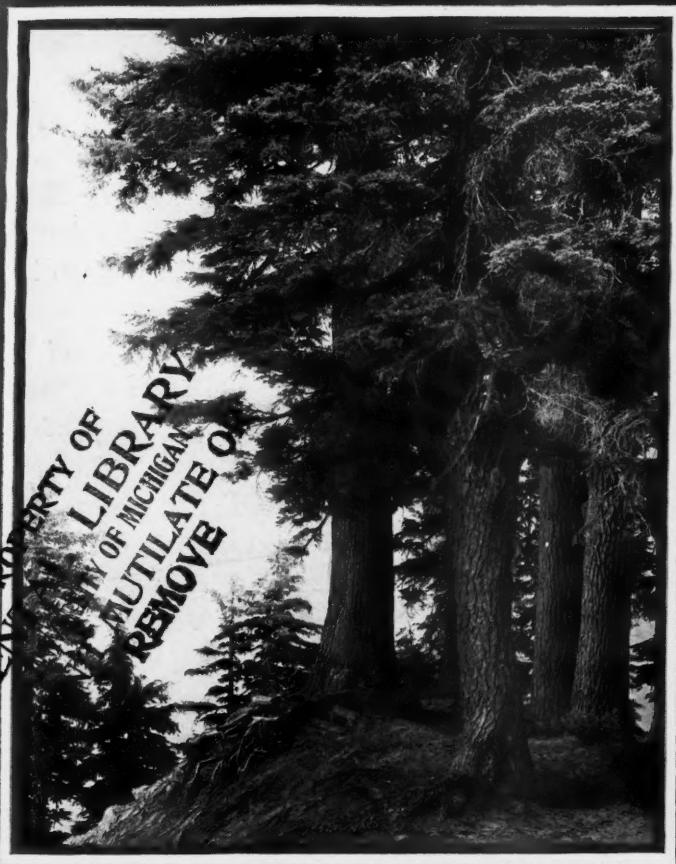


THE DENTAL DIGEST



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Entering Hartford

Either by motor or by train, the first object to catch the eye is the dome of Connecticut's capitol rising from an eminence in the beautiful public park.

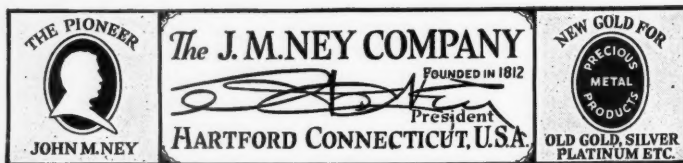
That golden dome, reflecting the rays of the sun by day and brilliantly illuminated at night, stands as a symbol of the industry and enterprise of Connecticut.

But to us it represents something more. In 1874, that dome was covered with Ney's Gold, and thus it constitutes a recognition of one of Hartford's great industries.

From a piece of 23 karat gold about the size of an old-fashioned watch, a gold carpet to cover the 4,400 square feet of surface was worked out and applied to produce the dome's golden glory.

It may surprise the dentist to know that the precious metals prepared by Ney have been required in large quantities by the arts and the industries in a bewildering variety of forms.

But the Ney Company specializes in *the Dental line*, bringing to it the advantages of extensive equipment, long experience and the fruits of continued research.



"Best since 1812"

THE DENTAL DIGEST

Vol. XXIX

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A Result of Correct vs. Incorrect Application of the Principles of Physics and Esthetics in Denture Construction

By R. O. Schlosser, D.D.S., Chicago, Ill.

Upon studying the development and the functions of the human dentures from birth to maturity, we gain an insight into one of nature's complex and at the same time most scientifically interesting phenomena.

How the proper distribution of the functional forces assists in the development of the entire masticating mechanism, the face and the cranium, and as a result makes perfect metabolism and a symmetrical bodily form possible, has been very aptly described in a paper by Dr. F. B. Noyes entitled "The Prevention of Malocclusion," published in the Chicago Dental Society Bulletin of February 27, 1923.

How the disturbance, interference with or wrong application of those same forces may wreck the mechanism, may produce a train of bodily ills and result in serious disfigurement was convincingly illustrated in Dr. Noyes's paper as it dealt with the distribution of functional forces through occlusion.

It is a rather sad commentary upon the work of many engaged in the general practice of dentistry that while they consider and associate the importance of unimpaired bodily functions in their operative procedures, they seem apparently to ignore the equal importance of a full accommodation of the physical as well as the physiological functions of the residual structures, when planning or making prosthetic appliances, and especially so when constructing full artificial dentures. In orthodontia we aim to aid the normal developmental influences by correcting arch form, tooth alignment and cusp-plane relations, thus bringing about a proper distribution of the applied forces in function and the elimination of interferences and effecting a proper stimulation through normal functional activity, incidentally preventing facial disfigurement.

That the conditions confronting us in the field of denture construction are to a large degree analogous as they pertain to the distribution of functional forces, in so far as the principles of physics are correctly applied in the artificial development of normal arch form, tooth align-



Fig. 1.



Fig. 2.



Fig. 3.

ment and cusp plane arrangement, is the thought the writer of this paper wishes to emphasize.

RETENTION

An additional factor that must be artificially supplied is a means of retention. This is but another problem in physics, and calls among other things for the following: an adaptation of the denture base that will insure against interference to nerve function and circulation; a uniform distribution of the forces transmitted through the denture to the tissues upon which it rests; a perfect peripheral seal taking full advantage of atmospheric pressure conditions; and an avoidance of over-extended flanges as they may impede or interfere with the full physical freedom for every normal habitual movement made by the structures of the lips, cheeks, tongue or throat which are attached to the jaws and play a part in speech, mastication or facial expression.

The foregoing requires a careful and exact impression technic, for good impressions make good casts possible and these are necessary foundations in denture work. From this point on we must link the principles of esthetics with those of physics, lest in stressing the one we fail to achieve the desired result in the other. The factors that will govern us are the normal facial dimensional relations, such as length, width, contour and profile; the inter-relation of face form with arch and tooth form as it will aid us in selecting teeth that will harmonize with the arch and face; the relation of the mandible to the maxilla at rest and in the various functional positions, as well as the differential limit of the mandibular movement as it affects the cusp plane relation within the functional range; the condyle path, the muscles and ligaments as they govern or limit the movements of the mandible; and lastly a recognition of abnormalities in the ridge relation that may call for some sort of modified technic.

To illustrate this paper, the writer will describe his treatment of an extreme case of facial deformity caused in part by an early disturbance of natural occlusion and aggravated later by wearing dentures in the construction of which all laws of physics and rules of esthetics were violated.

The condition in which the patient presented herself for treatment is illustrated in Figures 1, 2 and 3. A front and side view of the casts mounted on an articulator showing the abnormal ridge relations are pictured in Figures 4 and 5. It will be noted that while there is a marked prognathism of the mandible, its median line is also some 9 mm. off center, the upper arch is quite small and irregular, the lower is large, the ridge narrow and flabby.

Full compound impressions were taken, plaster casts made, and baseplates with contour rims developed, the occlusal plane established

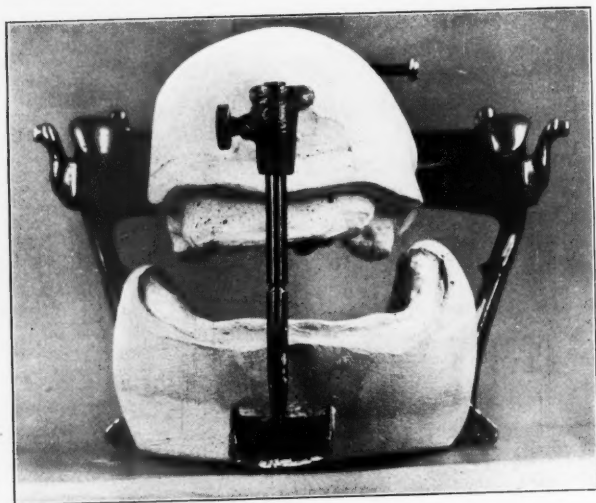


Fig. 4.

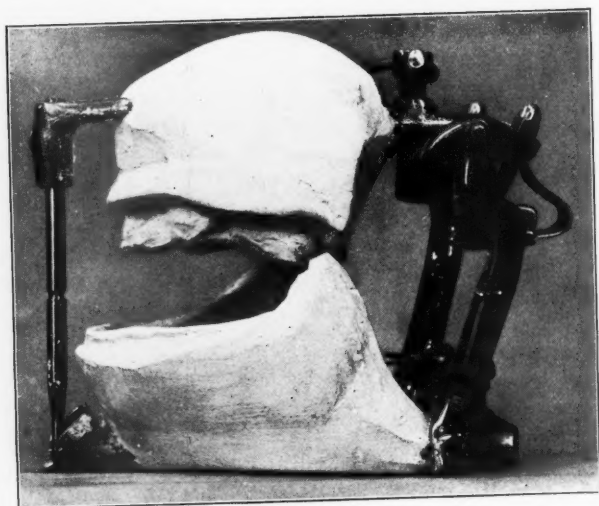


Fig. 5.

and bite registered which showed up the lateral shift of the mandible. An attempt was first made to correct facial contour by use of plumbers and, without changing the position of the mandible, this was found impractical, making it necessary to effect a realignment by moving the mandible sufficiently to bring the symphysis to the face center. This brought the left condyle forward from its forced retruded position and also increased the prognathism slightly as is shown in Figures 6 and 7.

With the mandibular cast mounted in this new relation and a correct bite-opening established, the contour was worked out with the aid of compound rims and these furnished the guide for setting the teeth.

It has been customary (and is today practised by some) to set teeth for such cases to what is known as "cross bite." This the writer has on various occasions attempted to do, but never to his full satisfaction, therefore he aims to develop normal occlusion for all cases and depends on perfect alignment and cusp-plane relationship to establish and maintain denture balance. In extreme abnormal conditions as presented in this case it is sometimes necessary to compromise in the matter of tooth position in relation to the ridge by setting the upper teeth out as far as possible to increase the size of the arch and by setting the lowers in to decrease the arch size.

It must be remembered that we depend upon the teeth in the arches to maintain the facial contour and profile, but we must at the same time, by the correct placing of the teeth, provide stability as an aid to the retention, lingual space for the tongue and labial and buccal clearance for the lips and cheeks so that they may perform unhindered their various functions.

In setting the maxillary teeth we reproduce the arch form of the contour rim. High lights and shadows are developed by prominences and depressions worked out in the placing of the teeth. The arch curve should follow the ridge, and viewing each tooth as a unit of the arch, correct assembling of the units will result in arch continuity, which in turn will greatly facilitate the occlusion of the opposing teeth. The lateral and the compensating curves are also worked out, but may have to be modified when the lower teeth are set, depending upon the degree of curvature in the ridge.

In setting the mandibular teeth, we should keep in mind that we are dealing with a component of a mechanism subject to the performance of peculiar functions, dependent upon the relations of the parts to each other and governed by the structural form and by the positions assumed at rest and during function by the movable factor against the fixed factor. Recognizing the occlusal and incisal surfaces of the teeth as the units in the distribution of functional forces, proper



Fig. 6.



Fig. 7.



Fig. 8.

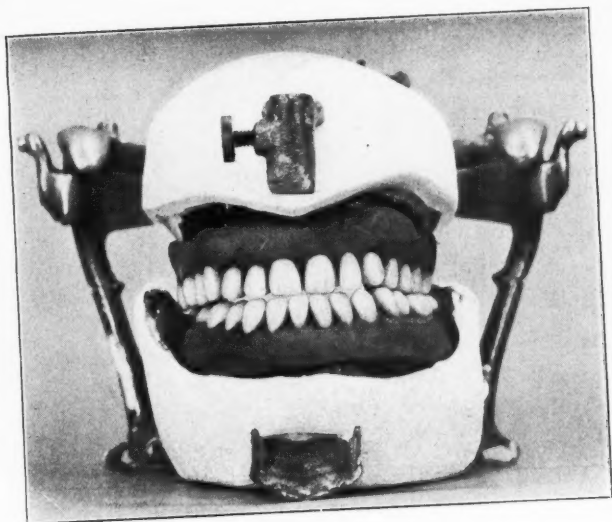


Fig. 9.

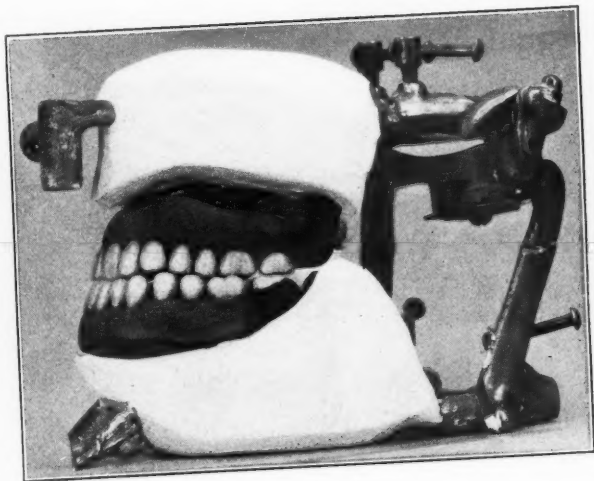


Fig. 10.

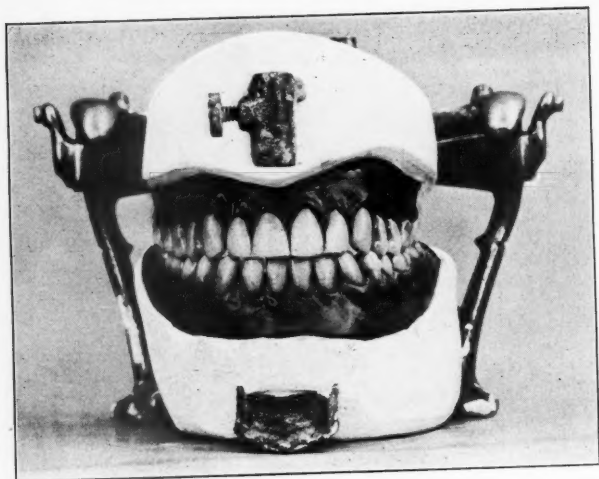


Fig. 11.

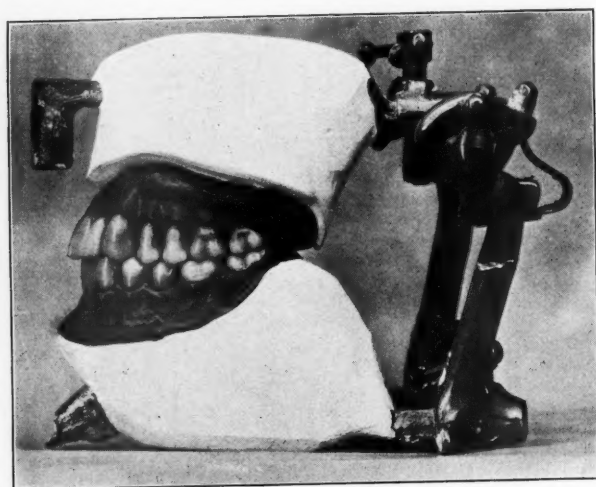


Fig. 12.

directions of these forces can be obtained only by the correct arrangement of the tooth planes. This in combination with proper contacts and clearance for positions and different movements of the mandible, with good adaptation of the bases to the tissues upon which they rest, will provide denture balance and the resultant stimulation to maintain and prolong the usefulness and comfort that the dentures should give to the patient.

In summing up, the writer wishes to say that the technic he employed in this case was the same that he uses in all his cases with the exception of the shifting of the mandible which he effected by marking the median line on the labial face of both contour rims before taking the bite and guiding the patient during the closure so as to bring them into perfect alignment.

The patient received the dentures November 1, 1921, was able to masticate with them from the very start, and has worn them continuously with comfort ever since. They have not been altered or rebased and the retention of both dentures is as good today as it was when they were first placed. Any strain that may have resulted from the correction must have been very slight for the patient has never mentioned that she was ever conscious of it. The mental stimulus she experienced as the result in the changed appearance undoubtedly did much to add to her physical comfort.

Figures 6, 7, and 8 show the patient with the dentures made by the writer. Figures 9, 10, 11, and 12 show the two sets of dentures on the same articulator.

October

When all the other months had dressed in blue and gold and green,
Each one of them more beautiful than any reigning queen,
October stood a bit apart and flung her white arms wide,
And "I will be a gypsy month—a gypsy month!" she cried.

"My hair will be the mist that curls about the purple hills,
And I will sound a vagrant call—a call that lures and thrills;
And I will wear a scarlet gown, with flowing russet sleeves,
And I will dance a gypsy dance among the whirling leaves!"

And so it is. Though other months may sing a sweeter lay,
Though joy and happiness may meet as dream day touches day;
October flings her white arms wide and stands a bit apart
With wonder in her lifted eyes, and romance in her heart.

N. Y. Sun.

Illustrated Steps in Crown and Bridge Construction*

By Anastasis G. Augustin, D.M.D., New York City

PORCELAIN JACKET CROWN

This crown has considerable advantages in cases to which it is suited. These are: (1) When a malformation of natural tooth is intended to be corrected. (2) Greater part of tooth substance to be preserved in small incisors which have delicate roots for a crown with post. (3) In bifurcated teeth where decay has endangered its splitting.

In a live tooth the jacket crown preserves it against thermal shocks much better than a metal crown. The difficulty in attaining a perfect fit in this crown has prevented its general use; when properly constructed it is an ideal restoration to restore any broken down live tooth, and best for artificial single crowns, especially for the front teeth, because (a) It is best in appearance. (b) For better adaptation and less irritation under the gum. (c) It has the strength of a banded crown, thus preventing it from splitting. (d) Its application is universal in live as well as in dead teeth; if a tooth is badly broken down it can be easily restored to shape by the use of metal posts and cement.

The injection of a local anesthetic is necessary for the preparation of a live tooth. Cut vertically with knife-edged stones (kept wet) the enamel on the distal and the mesial sides of the tooth, commencing from the cutting edge to the junction of enamel and the cementum at neck of tooth. Follow the gum line and produce a shoulder, and with thicker stones grind the labial and the palatal surfaces; use enamel cleavers for the removal of enamel if necessary at neck of tooth, as its use is less painful. The cutting edge, or the occlusal of the tooth, is ground enough to allow for thickness of porcelain. The sharp corners in the preparation of the tooth now can easily be reduced by the use of carborundum stones and points (kept constantly wet); grind to a smooth conical form with even shoulder. (The operator must exercise great care not to inflict any injury to the live pulp by careless grinding.) Now, with square-end crosscut and fissure burs the shoulder about the neck of tooth is evened. Fig. 1 presents tooth preparation complete.

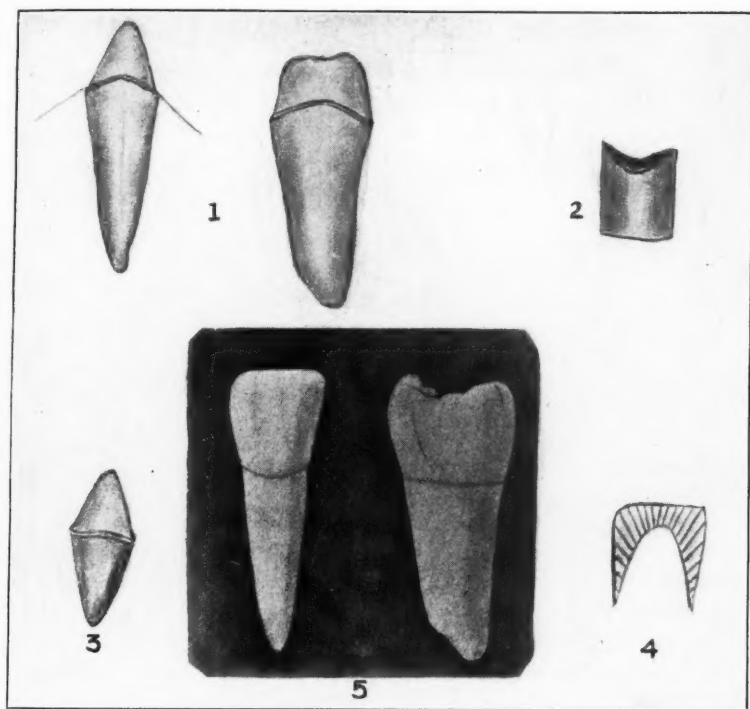
Fit a copper band loosely around the prepared tooth, trim it to the gum margin, as in Fig. 2, and fill this band with softened modeling compound; vaseline its surface and press it evenly against the tooth to take the impression. If the outlines are not sharp, add some more soft

* Copyright 1923 by A. G. Augustin, D.M.D.

compound; take another impression, chill it and remove same. The labial or the buccal of band should be marked for convenience.

In a crown and bridge tray, with pink wax take impression of the prepared tooth and adjoining several teeth, and then a pink wax squash bite. Select shade of tooth with a shade guide.

Before the patient is dismissed, it is necessary that the tooth should be protected either by the use of celluloid tooth forms and temporary stopping, or a metal band or a crown constructed to fit the tooth and kept in place with gutta-percha.



Back the compound impression of the prepared tooth with silver amalgam; when die is ready pour the model and articulate same. Remove the die from the model as in Fig. 3; burnish and swage 1/1000 platinum foil on the die. Mix porcelain paste of desired shades, and build and carve crown on die over the articulator before the final baking and glazing of the crown, as in Fig. 4, showing its cross-section. When the patient appears for its setting, try the finished crown and grind it

to proper shape and position, if necessary, previously removing platinum foil inside of crown.

When crown is ready to be set, dry the tooth with chloroform, as it is less painful; then coat it with cavity lining; give several coatings to insure the sealing of all the dentinal tubuli, protecting it from possible thermal shocks. Now mix cement of proper shade, and set the jacket crown in place, as in Fig. 5.

Our Guests

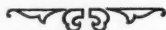
(Editorial in Cleveland Plain Dealer)

It is doubtful whether any other profession has increased so much in public esteem during recent years as that of dentistry. This is no reflection on other professions. Perhaps the skilled dentist was later coming into his own as an agent of health and comfort than those in other professions were in getting their merited recognition. Be that as it may the dentist has "arrived."

Several hundred of them arrived—changing from the figurative to the literal—in Cleveland Sunday and Monday and yesterday opened the first convention session of the American Dental Association. A variety of problems related to the welfare of the profession will occupy the attention of visitors and hosts while the public welfare is so closely identified with the best interests of the profession that the convention becomes a matter of importance.

The dentist with his kit of instruments fought the good cause in the late war. They went into Russia after the armistice, carrying the gospel of sound teeth to the ignorant and helpless. Their service to the schools and to welfare organizations counts heavily on the side of public health. No longer is it deemed even respectable to have a mouthful of decaying teeth. Everyone recognizes that without a healthy mouth there can be no health.

So Cleveland is glad that dentists are here from all parts of the country, and hopes they will like us well enough to come again some time. No community appreciates better what society owes to the profession.



Maxillary Sinus Infections of Nasal and Dental Origin from the Standpoint of a Rhinologist*

Cornelius G. Coakley, M.D., New York, N. Y.

(This summary is neither authentic nor complete. It represents the impression made by the address upon one in the audience.)

Infection in sinus cases arises from two separate sources: extension from the nasal mucous membrane to the accessory sinuses and from the buccal through wounds or, more frequently, through infection around the roots of the teeth or alveolar process. You, as dentists, and we, as rhinologists, probably differ as to the percentage of cases arising from each of these causes, more especially as figures compiled before our present methods of diagnosis were perfected are of little value. Dr. Babcock found that in 109 cases in private practice only 7½% could be ascribed to buccal origin. In 176 cases between October 1, 1922, and January 1, 1923, only five could be ascribed to buccal origin. Dentists would probably see a higher percentage of cases arising from buccal causes.

The symptoms of maxillary sinusitis differ in acute and chronic cases. Acute cases sometimes exhibit pain, but not always. There is always a discharge from the nose. Except in cases of dental origin, deformity, such as swelling of the face, is rare.

Chronic cases often do not exhibit pain. They complain of a discharge from the nose or into the pharynx. About 50% of such cases that come to us have no idea that they have any involvement of the sinus. It is only under routine examination that we are able to decide which patients have maxillary sinusitis.

The diagnosis of maxillary sinusitis is comparatively simple if gone about in the right way. A large percentage of cases will be seen to have considerable secretion from the nose, either mucoid or purulent. However, if the patient blows the nose just before sitting in the chair for examination, it is quite possible that the person looking into the nose may be deceived by the absence of secretion. After cocaineizing the patient, we examine the interior of the nose with the pharyngoscope. It is astonishing to note how often the use of this instrument will detect pus around the orifices of the frontal, maxillary or sphenoid sinus when the ordinary nasal speculum fails to show any pus. The absence of pus does not prove that the patient is free from sinusitis, because the cavity may contain a considerable amount of pus; but, if it is not overflowing when the case is examined, the nose and the region of the orifices from the frontal and maxillary sinuses may be free from pus.

*An address delivered before the Scientific Section of Oral Surgery, First District Dental Society, New York, March 21, 1923.

The pharyngoscope is especially useful in cases presenting a thin, purulent secretion.

The next step in examination is transillumination, which is quite simple and can be readily done by the oral surgeon. It requires only a dark room, a battery of three cells for the lamp and a proper lamp with a shield. The lamp, with the shield in place, should be put into the mouth and the brilliancy of the illumination through the sinus noted. This method is most valuable when only one sinus is involved, because the difference in the transillumination between the normal sinus and infected sinus is great. The benefits of this method of transillumination are so great that I hope it will become a part of your routine procedure in examining such cases.

When both of the sinuses are involved, the danger of being fooled by transillumination is great. It is important to know about how much illumination one can expect in a face of a given individual with normal antra, and this takes experience.

The next step in examination is to have radiographs of the skull taken antero-posteriorly. Such a radiograph is most valuable in determining whether there is a proper degree of illumination in the maxillary sinus. Other important things to be considered are whether or not you have a single or double sinusitis, who is taking the radiograph, the angle at which it is taken and the age of the patient. In an adult, with a large sinus, well aerated, the picture will be clear. In children, with less development, the shadows formed may easily be mistaken for diseased condition. It is difficult to get clear plates for reading, but plates which are not clear should not be regarded as diagnostic.

In cases of doubt, we have no hesitation in irrigating the antrum to find out what is there. In cases of blond, pale patients, it is surprising how much material may be in the maxillary sinus and yet the transillumination be good. To irrigate the maxillary sinus, we cocaineize the naso-antral wall and pass a trocar through it with the aid of a small mallet, which causes less discomfort to the patient than hand pressure. The sinus is then irrigated with normal salt solution, and the fluid which passes out is caught in a black pus basin, which shows up the character of the fluid much better than a white basin. In a normal maxillary sinus, the fluid coming out in this way will be absolutely clear. In the early stages of acute maxillary sinusitis we have found almost clear mucous, nearly white and gelatinous. Twenty-four hours later, the secretion shows some yellow. In another day, it may be distinctly orange-yellow or of a greenish color. The color depends upon the associated bacteria. If there is *Staphylococcus aureus*, the color will be yellow. In acute cases the secretion sticks in one

mass and the mucous, is of the color characteristic of the associated bacteria. Sometimes the irrigating fluid from the maxillary sinus looks like an emulsion because of the presence of broken-down purulent secretion, the product of a breaking-down action by some bacteria other than that which caused the disease. Odor is usually present only in chronic cases where putrefactive organisms have got into the nose and so into the sinus. This condition may obtain with any of the sinuses. The presence of an odor might cause the rhinologist to investigate the possible dental cause for the sinusitis, but it does not follow that because the odor is present, the cause is dental. When odor is present in acute cases, we almost invariably find the cause of the sinusitis to be dental.

In acute cases, there is only an acute oedema of the membrane. If such a case can be relieved of the secretion and ventilated, it will probably get well in a short time. In cases which have been standing for months or years, serious pathological changes have taken place. Our method of treating acute cases is to wash out the secretion, to keep the nasal membrane clean, to watch each day and to note the diminishing amount of secretion and the improvement under transillumination.

The speaker said that he has no patience with those who advocated the use of suction as a means of drawing secretion from the sinus because it would not work in cases of thin secretion, though it might work in certain cases where the secretion held tenaciously together.

The antero posterior radiographs, taken for purposes of general diagnosis, do not give information about the condition around the roots of the teeth. If there is reason to be suspicious of any tooth, each tooth which approaches the sinus must be radiographed. In a number of cases we have made no progress in treatment of the disease so long as there was a focus of infection about the roots of the teeth. With the removal of the infection about the roots of the teeth, the cases cleared up.

It is probable that in many acute cases of oral origin, the extraction of certain teeth, the passing of a probe of the proper number into the sinus and a few irrigations will result in a cure. Long-standing cases cannot be successfully treated in that way because of the pathological changes in the membrane which are so extensive that a few treatments cannot get the membrane back to a non-secreting condition. When a large opening is made from the mouth into the sinus, it permits the entrance of infective and putrefactive organisms and affords a source of constant infection, which does away with the chance of curing that case.

We have had several cases where dentists have made devices to close up an opening into the antrum. Sometimes the opening is closed

by a tube and sometimes by means of a tooth. The tooth cannot keep infection out of the antrum, and the tube drains only that secretion above the level of its upper end and leaves the residual secretion. The presence of any mechanical device in an opening of this sort results in the formation of an epithelized opening from the mouth to the sinus. That opening will remain and the inflammatory process will keep up. Such procedures are not good surgery.

In any long-standing case which cannot be cleared up on four or five weeks, it is better to make a large opening into the antro-nasal wall under local anesthesia, taking off the anterior half of the inferior turbinate body. If the hole is left only one-half or three-quarters inch in diameter antero-posteriorly, it will not remain long enough for the thick membrane to return to normal, and the patient is then as badly off as before. Such an opening does not tend to cause reinfection, because the interior of the nose is practically free from bacteria, and the few present are generally destroyed by the action of the mucus. An antrum which has been infected is more susceptible to reinfection, when the patient gets a fresh cold, than a normal antrum would be.

Under such treatment, the patient either gets well or has a moderately thickened membrane, which is all that he can expect if the membrane has been thickened for years. Under the old method, when we packed an antrum for several months and let it fill up with granulation tissue, that tissue might become infected, and it required an operation to relieve it.

I do not know what is the best treatment of acute sinusitis of dental origin. Dentists believe in a small opening following the extraction of the tooth. This is not a good method in chronic cases, because the patient cannot get well before an epithelized canal from the mouth to the antrum is established. This leaves the antrum more susceptible to reinfection than the opening from the nose.

DISCUSSION OF DR. COAKLEY'S PAPER

By Dr. Theodor Blum

Dr. Blum read extracts from a paper entitled "The Oral Surgeon's Position in Diseases of the Maxillary Sinus," published in the *International Journal of Orthodontia, Oral Surgery and Radiography*, May, 1922, as follows:

"According to Hajek the most frequent causes of antrum disease are the infectious diseases and of these especially influenza. Less frequent are the ones which develop secondarily from diseases of the teeth, maxillae and after injury. Only the treatment of the second class, with few exceptions, belongs within the sphere of the oral surgeon.

The acute cases, of dental origin, may be caused by an acute purulent pericementitis, acute periostitis and acute osteomyelitis. The symptoms of the first are well enumerated by Hajek as consisting of severe toothache, pain upon pressure, elongation, frequently accompanied by periosteal swelling, and later on, discharge of foul smelling pus from the nose. When the offending tooth is extracted a communication with the antrum is found. Referring to periosteal swelling as a sign proves that only rarely is there found an infection of the bone or bone marrow without involvement of the periosteum and vice versa, so that when acute periostitis is given as another cause, it is understood that the bone itself must be also involved to cause an acute infection of the sinus. Although at times a communication with the antrum is established upon the removal of a sequestrum which had formed after an acute osteomyelitis, the sinus itself may be found to be healthy. The chronic cases follow chronic apical pericementitis whether the result of dental treatment or developing without such. Hajek has shown that infection may not only travel through the antrum membrane into the sinus, but also through bone of various thicknesses. He saw only two cases where infected cysts had broken into the antrum. The author has seen only one case of this type namely, a follicular cyst originating from a supernumerary tooth, which during an acute attack had involved the maxillary sinus. Chronic empyemas associated with tumors, syphilis and tuberculosis are rare. Under traumatic causes must be mentioned fractures as well as foreign bodies.

"The operation through the alveolar process may be difficult or contraindicated in such cases where the palate is high, when a considerable thickness of alveolar bone intervenes between the apices and the antrum floor. For obvious reasons a deep canine fossa as well as an outward bulging of the lateral wall of the inferior meatus will be a contraindication.

"The main objection to an operation through the canine fossa is the possibility of cutting the blood and nerve supply of the anterior teeth as well as actually injuring the teeth themselves. The best view, however, can be obtained through this operation only. All the oral operations can be performed under local anesthesia. If a tooth or an old socket has been found to be the cause of antrum disease, the socket (after removal of the tooth) must be enlarged without injuring the adjoining teeth. For better inspection, diverging incisions will have to be made buccally, the posterior one running backward and upward and the anterior one forward and upward. The soft tissues are now retracted and the outer wall of the antrum with antrum membrane removed with care so as not to injure the apices of the teeth. The contents of the antrum are now removed and if the membrane itself is

covered with polypoid tissue it is thoroughly curetted but the membrane never entirely removed. The mucoperiosteal flap is now replaced and sutured into position and an iodoform gauze drain inserted through the alveolar opening. The iodoform drain is removed after forty-eight hours or earlier if necessary, and not replaced, so that the small alveolar opening may close as soon as possible. In the average chronic cases, this treatment including daily irrigation with warm normal salt solution will be sufficient and the case discharged in about three to four weeks. Sutures are removed within five or six days. Should the secretion return at a later date and the antrum membrane again show signs of degeneration, a radical operation in cooperation with the rhinologist is indicated. While considering chronic cases, the question of persistent openings into the antrum may be discussed. In some rare cases, the removal of the epithelial lining covering the tract followed by curettage of the same will be successful. The wound itself can be protected by a small piece of iodoform gauze placed over it and held in position by a figure-eight wire attached to the adjoining teeth or to an artificial plate or some mechanical appliance. Usually, however, the old time flap operation consisting of covering the opening, after it has been properly prepared, with a palatal flap and suturing it into position, is indicated. An obturator with a plug running through the opening into the antrum must be condemned for several reasons. If the patient refuses an operation, an artificial appliance covering the opening is advisable.

"The treatment of all acute cases is, from the standpoint of the rhinologist, expectant, in other words, by irrigation. Only the dental cases form an exception as a tooth may have to be extracted, a periosteal abscess incised, a sequestrum removed or a foreign body taken out. The removal of a root should always be attempted through the socket from which it came by enlarging it as outlined before and attempting to locate the same by inspection or with an instrument. If not successful, irrigation is the next step, during which the root at times even appears through the nose in cases where the ostium is large and the root itself small. Should this method not succeed then the mucoperiosteal flap and removal of the outer antrum wall must be resorted to. In either case, if the antrum is healthy a piece of iodoform gauze placed over the wound and held in position by a figure-eight wire encourages the quick closure of the opening. If, during an operation the antrum membrane is exposed but not pierced, no further treatment is necessary. Should, however, the membrane be pierced and the antrum opened into, it must be irrigated at the time of the operation if there was a possibility of debris entering the antrum. If dressing of the wound is indicated, the iodoform gauze must not be placed into the

antrum but just so that it will cover the opening. In all these cases, the patient should be warned not to blow the nose for cleansing purposes, but only to wipe same, so as not to disturb the bloodclot and gauze.

"It is quite difficult at times to establish the fact that some dental or maxillary condition is the cause of the inflammation of the antrum. But even if this is established, it will be necessary to have all the sinuses examined by means of the X-ray and have the nose, throat and sinuses thoroughly gone over by a rhinologist. If other sinuses, especially of the same side, are affected, a simultaneous operation by both the rhinologist and oral surgeon will be indicated. Acute and emergency cases are the exceptions. Inflammations of the maxillary sinus not of dental origin are cases for the rhinologist and not the oral surgeon. The patient's welfare must always be uppermost in our mind and, therefore, the statement expressed above should be generally recognized. It is unfortunate indeed that some antrum cases must be treated through the mouth. The natural opening of the maxillary sinus leads into the nose and the logical treatment, therefore, should be through the nose. It would be absurd on the other hand, if an empyema of dental origin were treated through the nose when the tooth or root must be removed and the sinus, therefore, can conveniently be drained through the socket without disturbing normal relations in the nose. While the rhinologist and oral surgeon can serve patients best in their own field, the careful cooperation of the two can only be of additional benefit to them."

By Dr. Henry S. Dunning

We have to make a diagnosis as to the source of the infection in sinus cases. If the source is oral, the case belongs to the oral specialist provided he is familiar with the maxillary sinus. I believe that at least 50% of the cases of maxillary sinusitis are of oral origin.

We frequently find a tooth that is suspicious. We find it to be dead and then we find an infective antrum that has been going on for years, draining through the middle meatus and causing no symptoms. We found it because we took a radiograph in which the tooth appeared to communicate with the antrum floor. It is very important that such radiographs should be properly taken, because improperly taken radiographs can make any molar tooth appear to project into the antrum.

If we have a non-vital tooth that is infected and the radiograph makes it look as if it projected into the antrum, and the antrum is cloudy upon transillumination, we ought to find out exactly what the conditions are before we extract that tooth. It is quite easy, in such

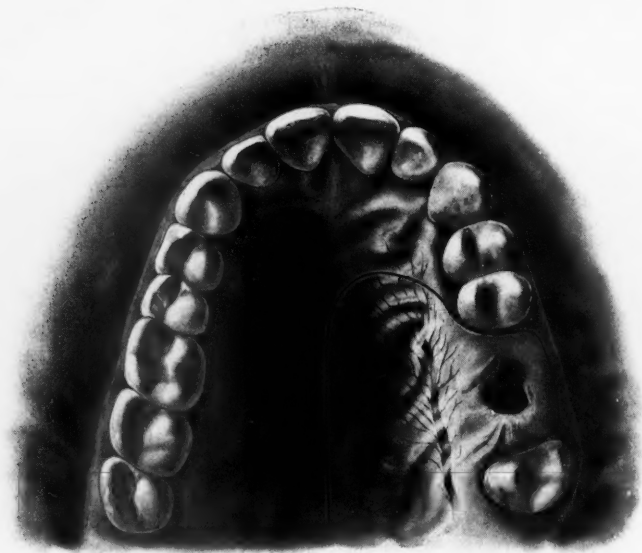


Fig. 1. The solid outline shows the form and size of the palatal flap for closing an opening from the mouth to the antrum.

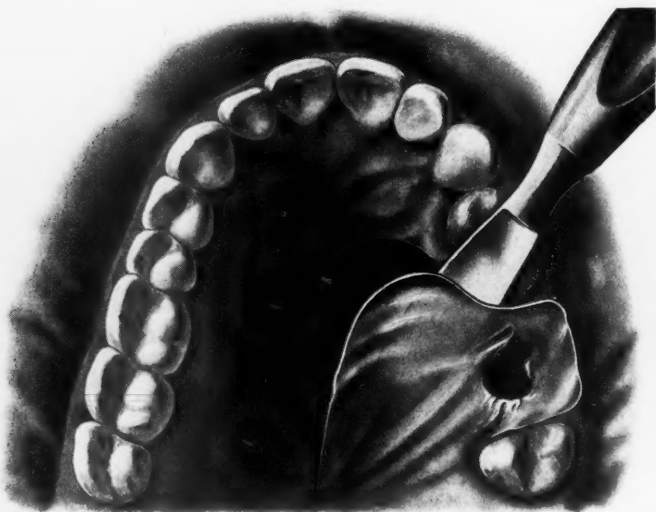


Fig. 2. Method of dissecting palatal flap from underlying tissues.

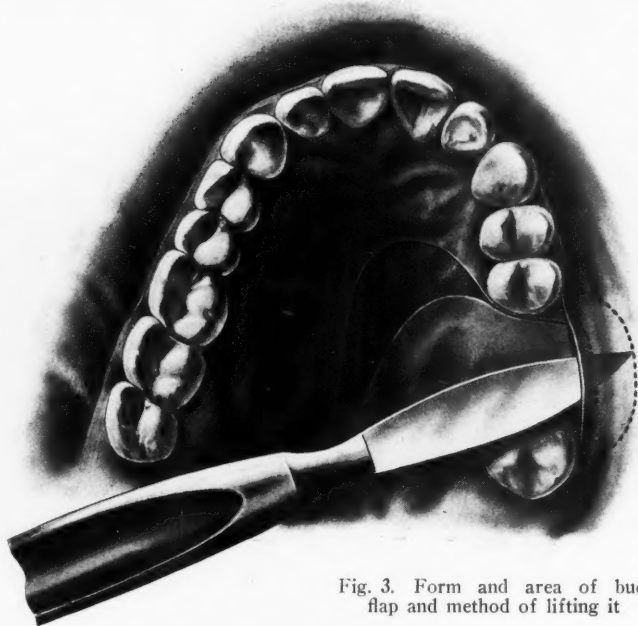


Fig. 3. Form and area of buccal flap and method of lifting it



Fig. 4. The flaps brought together in such a way as to avoid tension at margins and stitched.

cases, to expose the root. If it is black and extends into the antrum, it is easy to make a little window into the antrum above the tooth and ascertain just what the conditions are before doing a radical operation. The antrum can be cleaned out without removing the membrane. When the antrum has been cleaned, sew up the wound and make a nasal opening at once for safety. In some cases we can save the tooth. But if the tooth is black and there is a granuloma or an infected area, it must come out. I think that the whole thing should be done by one man and the patient permitted to have only one operation and one convalescence. Transilluminate the antrum before you subject the patient to the necessity of procuring extensive radiographs. If there is a diseased alveolar process, we should curette wherever that disease leads us. I do not think the antrum case of dental origin should be packed with gauze because the gauze acts as a wick to suck up oral bacteria into the antrum. Such a procedure is like cleaning the cellar of your house through the parlor. The antrum is supposed to be a clean cavity and the mouth is a filthy cavity. I do not think any oral wound should be allowed to drain into the antrum for any great length of time. I believe every opening can be closed immediately after the infection is removed.

If an opening from mouth to antrum at the location of the second molar is to be closed, a flap of mucous membrane having the form enclosed within the solid line in Figure 1 may be taken from the palate by the method shown in Figure 2. A buccal flap of the form enclosed within the dotted outline in Figure 3 is lifted. The flaps are brought together and stitched as in Figure 4.

If there is a chronic antrum, it should be cleaned out, the nasal route established, and the oral opening closed as soon as the weeping from the oral infection has been removed. In closing such a wound, I prefer to bring the flaps together with practically no tension at the point where they meet. If you cannot close the oral opening at once, a saddle-plate should be worn temporarily. A properly made saddle-plate will permit the secretions to come down, but will not permit secretions to go up. Such a plate can be worn two or three weeks until the wounds can be closed.

Dr. Coakley (In closing the discussion)

We are always suspicious of dead teeth. If, in a chronic antrum case, there is a dead tooth, the dentist is required to investigate that tooth, and if there is any occasion, to extract it. Whenever radiographs show an abscess about an apex or one side of a tooth, even if the tooth is not dead, many dentists amputate the apex of the tooth and curette around it and expect us to cure the sinusitis connected with that condition. The patient will undergo six months of treat-

ment; we go through six months of irrigation: and then the tooth will have to be extracted in the end, before the condition can be corrected.

I have been much interested in the methods of treatment of maxillary sinusitis described by Drs. Blum and Dunning in cases where the sinusitis is caused by disease around the roots of the teeth. I used to believe as they do; and ten or fifteen years ago I was doing what they are doing. In those days, nobody made a large opening. Nobody washed the antrum out through the nose. The more we curetted, the longer those cases discharged. When it was found out that curettage of the maxillary sinus was not wise and that all we had to do was to make a sufficiently large opening in the naso-antral wall, aerate and irrigate, and not do any curettage, and that we could look in by means of the pharyngoscope and see the membrane get smaller, our cases began to recover in less time. I believe that if you men find diseased teeth and extract them and find around the roots a certain amount of infection, in the alveolar process, and curette it without entering the maxillary sinus if you can help it, or, if you happen to enter it, leave out all the rest of your maxillary surgery and then learn to make an opening in the naso-antral wall, you will get better and quicker results.



Correlation of Dentistry and the Practice of Medicine*

By Manfred Call, M.D., Richmond, Va.

Dean and Professor of Clinical Medicine, Medical College of Virginia.

The opportunity to appear before an association of the dignity and importance of the Virginia State Dental Association is an honor to be coveted, and I wish to convey to you this acknowledgment of my appreciation of your invitation to read before you a paper on a subject of interest to the allied professions of Medicine and Dentistry.

It would be presumptuous for me, granting that I had the technical knowledge, to attempt to enlighten you on the fundamentals of your own profession; nor can I attempt, as a representative of the medical profession, to bring to you the consensus of opinion on the Correlation of Medical and Dental Practice. While this interdependence has been recognized in the abstract for some time, an appreciation of this relationship is now of increasing importance if we are to reach an approximate solution of diagnostic and therapeutic problems that concern both professions; if we are to be reciprocally helpful in developing a broader professional vision, and in acquiring a more comprehensive understanding of the present trend in medical and dental education and practice; and, finally, if we are to realize that the individual and collective efforts of the teacher, the research worker, and the practitioners of medicine and dentistry are proceeding, not in diverging lines, nor yet in parallel lines, but in lines that converge to a common point and that represent the consummated ideal of both professions, preventive medicine and dentistry.

We can appreciably add to the impetus of this movement by a more widespread acceptance of the fact that the knowledge of the one profession is complementary to that of the other and by the utilization of this knowledge in a more detailed and frequent contact of the two professions at the bedside, in the clinic and in open discussions.

I will present some evidence to illustrate the present trend so far as it affects the undergraduate of both professions and in what manner specialization in effort has been the inspiration to progress in both professions. By specialization, I refer to a definite, intelligent, and sustained endeavor by one who, fundamentally grounded in the principles of his profession, preferably with a background of a well ordered and carefully analyzed general experience, has the ability, the aptitude and the enthusiasm to concentrate all of his powers, analytical and constructive, for the more complete understanding of a more or less circumscribed field of medicine or surgery.

* Read before the Virginia State Dental Association in Richmond, Va., and reprinted from the Virginia Medical Monthly, June, 1923.

Specialization in medicine has existed for a longer period of time than has specialization in dentistry, and this specialization has played a most important role in the extension of medical knowledge. By the operation of individual thought in the laboratory and in the clinic, by scattered observers over long periods of time, has resulted in large part the generalization and collective medical knowledge of today. From the same source we may expect the enlarged knowledge of tomorrow.

Dentistry is following the same cycle, and, like medicine, producing its practitioners, its research workers and its teachers. The last two classes, the research worker and the teacher, definitely link our two professions. The research workers in the two professions are actuated by the same desire, they have the same fundamental training and they are solving very similar problems, for they are primarily concerned in a study of the causation and prevention of disease. The teachers are primarily concerned in the dissemination of the methods adopted by the research workers and the results achieved by the practitioner in the alleviation and cure of disease.

If the practitioner, medical or dental, is to keep in touch with the advanced thought of his profession, if he is to give to his clientele the benefit of improved diagnostic methods and refined therapeutic procedures, he must establish some contact with the source from which this information continually flows.

My own experience in medical teaching and practice (for 22 years) has naturally led to a crystallization of opinion along this line. Not the least important of these conclusions has been a recognition—

First, of the deadening influence that follows a voluntary or involuntary professional isolation in the practice of medicine, whether in the heart of a congested city, or in the sparsely settled country districts;

Second, a corollary of the preceding, the stimulating effect of daily contact with fellow workers, and young enthusiasts, and the great benefit to be derived from a critical review of the weekly, monthly, or quarterly summaries of the achievements of fellow workers, or an account of the origination of researches in new fields;

Third, is the necessity for a co-ordination of thought and opinion in the allied realms of general medicine and its specialties: general surgery and its specialties: dentistry and its specialties, in the light of a more illuminating physiology, pathology, bio-chemistry and pharmacology.

If we follow the present trend of the educational movement in Medicine and Dentistry, we must be impressed by the similarity of purpose and identity of expression by the leaders in these great spheres.

For example, Eycleshymer, University of Illinois, in an address on "Liberalization in Medical Education" has this to say: "In human progress there are two fundamental processes which sometimes proceed

equally, but usually one or the other is dominant. . . . These two processes are extension and consolidation. In the past medicine was largely restricted to the diseases of mankind. At present she recognizes the ultimate relationship of the diseases of plants and animals to those of mankind. In the near future she must take into consideration the diseases of metals: ultimately her domain will extend over both the organic and the inorganic world. . . . In the growth of knowledge in all of its special fields and great provinces as a whole the same two processes stand forth, specialization and generalization. The vitalizing factors in these are individual thought and collective thought. Greater men in medicine must come through great liberty in medical education. The practitioner of the future, either general or special, not only must measure up in self reliance, responsibility and judgment to the practitioner of the past, but also must be better trained and more thoroughly imbued with the investigative spirit. Acuteness in observation, precision in experimentation, and caution and judgment in deduction, are the essentials for the interpretation of disease."

Now as a parallel idea the following excerpt is taken from an editorial in one of the dental journals. (*The Dental Cosmos*, Aug., 1922.)

"If one were to seek for the principal underlying cause of the revolutionary change that has led up to present day dental science and art. . . . the germ theory of disease should rank first in importance. From the light thrown upon the etiology of dental caries by Miller to the present day knowledge of the bacteriopathology of the oral cavity and the causal relation of mouth infection to systemic disease, the science and art of dentistry have experienced a new birth. . . . the objectives of dental practice are primarily vital rather than mechanical. The basis of dentistry is now biologic and its mechanical procedures are not ends in themselves. . . . The training of the latter day dental student must include a practical acquaintance with the broad underlying generalizations of science and the methods of reasoning by which these fundamentals have been evolved. In dental teaching there is needed a curriculum that will be educative as a whole, not merely informative."

If these educational principles are desirable for the undergraduate body, their continued application is essential for us, who have left the doors of our Alma Mater, but who are still students attempting to acquire a much desired post-graduate culture while in the service of a jealous mistress.

Both professions in this State have worthy practitioners and eminent teachers: both professions for their highest development need to produce more research workers. With vocational teachers in our state medical and dental colleges and teaching hospitals, with unlimited laboratory

facilities and abundant clinical material, can we not feel reasonably assured that the day is not far distant when our undergraduate and graduate student body will feel the call to this higher professionalism and, by their efforts, place Virginia schools and the Virginia professions in the forefront of investigative work?

The progress of dental science has been most closely watched and evaluated by your own leaders. The recognition of this progress by the medical profession was fairly sudden and coincident with the demonstration of the importance of oral sepsis.

I do not for a moment minimize the part played by our medical leaders in demonstrating the existence of oral sepsis and its relation to systemic conditions, but I would point out that the reaction of the medical mind, when it had once accepted as a possibility the importance of oral sepsis, varied somewhat according to its professional age and to the criteria the individual had assumed as necessary to prove the efficacy of any therapeutic procedure. The practical application of this principle of oral sepsis was possible only with the aid of the dental practitioner. Frequently the combination of the two, enthusiastic disciples of new thought, let credulity run away from judgment. In this connection we remember the acceptance by many of the profession of the role allotted the amoeba in the production of pyorrhoëa and the brief reign of glory enjoyed by emetine in the treatment of the condition. The sober consideration that followed the shattering of many ill-considered but optimistic prognoses and the realization that multiple foci of infection might exist tended to stabilize the medical and dental enthusiast on this engrossing subject.

The graduate of recent years, well trained in laboratory methods, in the theory of infection and immunity, is better aware of the possibility of multiple foci, other than the mouth, and also of the fact, that while foci of infection may originate and tend to perpetuate systemic disorders, yet, in many cases, secondary intoxication, metabolic rather than infectious, may assume the dominating role and perpetuate a vicious circle. It is in this type of case, for instance hypertrophic arthritis, that great disappointment has followed a failure to obtain relief after the surgical removal of one or more septic foci.

I doubt if there is any one subject on which there is such unanimity of opinion in the two professions, or any subject which has been more thoroughly discussed in all its ramifications than the subject of oral sepsis. Aside from its manifestations as a frank sepsis, we have had our attention directed to the role it may play in the essential anemias, achylia gastrica, certain forms of insanity, various arthritides, vascular and renal degenerations, and endocrine dyscrasias. The importance of oral prophylaxis and hygiene is so well established that it does not require further mention in this particular paper.

At this time, attention may be focussed not on the teeth as such, but on the mouth and all of its structures, mucous membrane, submucosa, the osseous tissue of the maxillae, the mandible, the teeth and the alveolar structure, the blood and lymph supply, the innervation; the functional ability of the mouth structures and jaw musculature, together with a consideration of developmental anomalies, acquired defects, the effect of traumata and bad habits and the modification in function that accompanies retrogressive tissue changes in the body, however induced, and systemic states as reflected in the mouth.

This enumeration opens a field of far greater dimensions than that of oral sepsis. For the whole, obviously, is greater than any of its parts, no matter how important a fraction may be as compared to the whole. Oral sepsis is concerned with the principles of infection and immunity, with predisposing and active agents, with local and general tissue resistance. This larger field, in addition, is concerned with the findings of embryology, and the application of the principles and teachings of physiology and biochemistry. It emphasizes the interrelation of organ function to organ function as part of a general whole. It calls for as liberal a fundamental training on the part of the dentist as is now given to the medical man.

(To be continued)

A Promise

Should I, dear, go before Thee Through the Dark
Into the sunset seas across the Bar,
Along the Way I'll kindle altar fires
That you can find me though the Way be far;
And in that hallowed cloister of my soul
Where you have reigned our many golden years,
I'll plant my fragrant memories of Thee
And keep them ever blooming with my tears.

—DR. W. A. MACKENZIE.

After-Treatment in Painful Sockets

By H. H. Wallace, D.D.S., Bancroft, Nebr.

My object in writing this is the hope that it will fill a want and help a little in the relief of pain and suffering, as I have seen little pain more intense than that which often occurs following extraction in certain cases, especially in the removal of impacted third molars.

A great deal has been said about the extraction of teeth but not enough about the after-treatment.

The following method I first used some four years ago on a case of painful swollen sockets after the removal of two lower third molars which were badly impacted. The swelling and pain in this case were the most intense I have ever witnessed and the accompanying trismus made it nearly impossible to open the mouth at all.

I used plenty of irrigation and antiseptic mouth washes with no relief; I gave the bromides in heavy doses and used first hot and then cold packs but without any satisfactory results. My patient could neither eat nor sleep and was in very intense pain continually. I used euroform paste and all the medicaments which had so often rendered me good service but all to no avail; the pain seemed to increase rather than to diminish. Of course, I could have used the narcotic drugs, but for certain reasons I did not care to do so in the case.

It was at this point that I hit upon the treatment that gave immediate and permanent relief and which I have used ever since with most pleasing results.

In brief the treatment was this: Irrigating twice daily, using between times an antiseptic mouth wash of mild strength, packing the sockets with cone-shaped pellets of cotton about the size of the sockets well saturated with a mixture of half oil of cloves (eugenol if you prefer) and half chloroform packed into the socket and left. The cotton was changed every twelve hours at first, then once a day later on. I also gave effervescing magnesium sulphate in heaping tablespoonful doses twice a day for two or three days.

The treatment is harmless and safe and gives very remarkable results in the reduction of the swelling and the lessening of the foul odor of the sockets, and most pleasing of all to the patient is the immediate relief from pain.

Since I first used this treatment and had such pleasing results, I have made it a routine practice in my office whenever I have had to deal with such cases as above described. However, one addition has been made, and that is the giving of ten grains of sodium salicylate every three or four hours as indicated. The dose may be varied to suit the case.

I hope the above will give to others the help it has given me.

The N. Y. Stomatological Society

The New York Stomatological Society held its last meeting in May, 1923. The Society has a twofold aim: (1) To give group instruction, clinical and didactic, in the treatment and prevention of oral and dental disease. (2) To provide a forum for discussion of cases from daily practice.

With the rapid progress of dental and medical science and with the added responsibilities of the dentist there is an urgent need that practitioners receive post-graduate instruction of a high quality. No less important is it to have dentists co-operate with each other to discuss dental problems as well as with the physicians with whom they are bound to come in closer contact. The Society provides this practical medium for co-operation.

Last season clinics were given weekly during the months from January until May. Group instruction was also given in Oral Prophylaxis, Pyorrhea, Office Management, subjects of vital importance in every-day practice. Several papers were read on the following topics: "Group Instruction in Clinical Stomatology—an Immediate Need for the Practicing Dentist" by Alfred Asgis, D.D.S., on January 17, 1923; "Economic Aspects in the Practice of Stomatology" by Joseph C. Ruggier, D.D.S., on March 7, 1923; and "Clinical Stomatology and Its Place Among the Specialties of Medicine" by Alfred Asgis, D.D.S., on June 7, 1923. The success of last year's program may be attributed to the efforts of John L. Kelly, D.M.D., who has been instrumental in providing interesting clinical cases. Dr. Kelly also conducted the classes in Pyorrhea and Oral Prophylaxis with great benefit to those in attendance.

The following officers were elected for the year 1923-1924: President, Dr. Alfred Asgis; Vice-President, Dr. Joseph C. Ruggier; Secretary, Dr. Stanley Slocum; Treasurer, Dr. Rex T. Taylor. Dr. Alfred Asgis has been appointed Director of the Department of Post-Graduate Instruction. The constitution and by-laws presented by Dr. Asgis were adopted on June 7, 1923.

Leading dentists and physicians have been invited to join the staff of instructors. The sympathetic attitude of several prominent doctors toward the Society is a sign that progressive men of both professions realize the need of extending scientific knowledge to the rank and file of the dental profession. Post-graduate instruction can no longer be considered a luxury, but a necessity, especially so for the younger men. We live in a transitory period and unless the young men are equipped to meet the demands of our time, they will find themselves in a critical

situation. The Society wishes to extend this assistance to all those interested in the progress of dental science and the welfare of our profession.

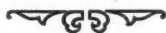
The medical profession is ready to assist and co-operate in the endeavors of the Society. In a letter received from a leading physician in New York, the following is characteristic of the spirit of our medical confrères:

"I think you are working on a very commendable matter. If you can get doctors and dentists to understand each other so that they can think and speak more clearly on the subject of oral sepsis, both to each other and to the patients, it will be a good constructive thing. We must eventually co-operate and not just talk about it, so that each one understands his field and obligations."

The New York Stomatological Society is preparing for the coming season an interesting program of post-graduate instruction in Clinical Stomatology. Several courses have already been arranged for "Dietetics and Its Application to Clinical Stomatology." A course of six lectures with slides and clinical demonstrations will be given with Robert H. Rose, M.D., Instructor. George Huston Bell, M.D., F.A.C.S., will give an illustrated lecture on "Reform Diet." "Oral and Dental Radiography" will be given by Byron C. Darling, M.D., Instructor, and "Pyorrhea and Oral Prophylaxis" by John M. Kelly, D.M.D., Instructor. A class in "Full Dentures" with H. E. Tompkins, D.D.S., as Instructor is being arranged for. Arrangements are being completed to secure instructors for two more classes—"Standard Methods in Root Canal Therapy" and "Oral Surgery."

Membership in the Society is open to all practicing dentists interested in scientific progress and desirous of study. No fees are charged for joining a class, for all instructors give their time gratis. Practicing physicians are invited to become associate members and work out with us a practical plan of medical and dental co-operation. The Society wishes to express its appreciation and thanks to those socially-spirited professional men who have already shown by deed, in joining our faculty, their willingness to raise the standards of dental practice.

See THE DENTAL DIGEST for the dates, place of classes and lectures.



A Method of Sterilization for the Dental Handpiece

By Moses Joel Eisenberg, D.M.D., Roxbury, Mass.

Fellow of the Harriet Newell Lowell Society for Dental Research of the Harvard University Dental School. Acting Chief in Dental Orthopedics at Forsyth Dental Infirmary for Children, Boston, Mass.

A recent article in *THE DENTAL DIGEST*, dealing with the sterilization of the dental handpiece, has brought me to do considerable thinking, and if possible offer a safe and sane method for keeping that portion of the dental instrument a little more than just socially clean.

The author of the previously mentioned article introduced his subject by stating that it may seem strange for a paper to be devoted to such an article as the dental handpiece. It seems to me that with the supposed care with which the dentist handles, caresses, and fondles his instruments and equipment, the dental handpiece should at least share in this expression of personal concern.

The dental handpiece approaches and enters the mouth of almost every patient treated. The routine of wiping with alcohol which most of us depend on is really not a proper means of sterilization. We would hardly consider that sufficient to sterilize any of our dental instruments, much less a dental handpiece. The mechanical intricacies of a handpiece leave very little leeway for the average practitioner to sterilize properly that part of his equipment.

Large institutions and hospitals that use dry steam autoclaves can easily place the complete little object in the sterilizer with the dressings and other materials that require dry heat. But not being an institution, and not possessing a dry heat autoclave, I have placed in the balance the various methods of sterilization which have come to my attention and have seemingly developed a method which will probably induce the dental profession to make a good *try* at better sterilization of the handpiece.

The majority of dental handpieces in use are either the Doriot type or the "No. 7" variety. The Doriot type handpiece has an easily removable sleeve. This also is true of the No. 7 handpiece. I can see no reason why the interchanging of this removable sleeve and the subjection of this sleeve to any of the recognized methods of sterilization would not completely fill the requirements laid down by the practice of aseptic dentistry.

The use of antiseptic solutions, such as bichloride of mercury, lysol, 70% alcohol and various other combinations of phenol and creosotes, would no doubt in time destroy the metallic qualities of this handpiece. Boiling is an ideal procedure to the owner of the Doriot or No. 7 handpiece, and that means less destruction than flaming in an open flame.

It would, therefore, be wise for the dentist to provide himself with two sleeves for his type of engine. These sleeves should be sterilized in some efficient manner like boiling or immersing in some antiseptic solution, dried, and then thrown into a dish of mineral oil or other sterilized oil similar to liquid petrolatum which is more commonly known as "American oil." This will thoroughly lubricate the sleeve so that it will not rust.

Changing the handpiece sleeve is a simple matter, requiring no further knowledge of mechanism or machinery than the use of a screw-driver, and it will not injure any handpiece to have the sleeve removed and changed.

I hope that this article on my ideas concerning the sterilization of the dental handpiece will prove of value in itself or that it may serve as a means of stimulating other ideas. In this phase of dental aseptic practice it seems to me that the only method to attempt to sterilize a right angle or contra-angle handpiece would be to boil the same in "American oil." This would serve not only as a proper sterilizing medium but as a wonderful lubricator preventing rusting in any of the parts.

In cases where the interior of the handpiece, because of use, becomes wet with saliva or water which has been applied to the stone for grinding or any similar operation, and where there is no doubt as to whether saliva has worked itself into the chuck mechanism, I would suggest that the handpiece "emasse" be removed and boiled in "American oil." This will serve a two-fold purpose:

1. To sterilize the handpiece properly.
2. To lubricate thoroughly the parts which otherwise would not be so thoroughly lubricated.

Let me give attention here to a simple method of removing the excess oil. The handpiece or sheath after boiling should be removed immediately and placed on a piece of sterile absorbent cotton, and a piece of similar cotton should be placed over it, which should be worked around the parts until all excess oil is removed.

If a little care is given to the method of drying, and a little time is spent shaking the oil out from any of the hollow or obscure places, there will be little difficulty found with the excess oil coming out from the handpiece when in use.

436 Warren Street.



Magic and the Tooth

By C. Edgar Thomas, London, England

It is somewhat significant that there exists no proper agreement as to the definition of the term magic, which depends to a very great extent upon the personal view taken of religion. Generally, however, it may be construed as the practice and power of wonder-working—a device which is probably as old as creation itself, for from the very earliest times magic has associated itself with many things. There have been the magic of precious stones and jewels, of earthenware and pottery, of pictures, together with a hundred or so other things, and finally, of teeth, for the tooth has throughout the ages enjoyed an existence and fame distinct from its utilitarian use.

Particularly among primeval or aboriginal races has the tooth been venerated, and in not a few cases been looked upon with awe. Among the Australian tribes, for instance, it was the general practice to knock out one or more of a boy's front teeth during those eerie ceremonies of initiation to which every male member was obliged to submit ere he could enjoy the rights and privileges of a full-grown man. Like many other matters, the reason for the practice is exceedingly obscure, but the natives believed that a sympathetic relation continued to exist between the boy and his teeth after the latter had been extracted. Among some of the tribes of New South Wales—particularly those in the vicinity of the River Darling—it was the custom to place the extracted tooth under the bark of a tree adjacent to either a river or well, and if the bark grew over the tooth or if the tooth fell into the water a good omen was evidenced and all was well; but if, on the contrary, the tooth became exposed and the ants ran over it, it was construed as a sign that the boy would some time or other suffer from some disease of the mouth. This custom was very religiously observed, and among certain Victorian tribes the tree in which the teeth had been concealed was ever afterwards held as sacred. Its identity was made known only to certain privileged members of the tribe, but the youth himself was kept in ignorance of where his teeth had been deposited. If by any chance he died, the bark of the tree was stripped, and the tree itself destroyed by the kindling of a fire about it, "so that it might remain stricken and sore, as a monument of the deceased." It would seem that this latter custom indicates the belief that even after being severed from the body, the teeth remained so intimately united with it by some secret sympathy, that when it perished they too must be destroyed.

The Murring and other tribes of New South Wales entrusted the extracted tooth to the care of an old man who passed it from one head-

man to another, until it had been handled by the whole community, when it then came back to the lad's father, and finally to the lad himself. During this conveyance from hand to hand, however, it was on no account to be placed in a bag containing magical substances, for to do so would place the owner of the tooth in the very gravest danger. In connection with this belief it is recorded: "Mr. A. W. Howitt once acted as custodian of the teeth which had been extracted from some novices at a ceremony of initiation, and the old men earnestly besought him not to carry them in a bag in which they knew that he had some quartz crystals. They declared that if he did so the magic of the crystals would pass into the teeth, and so injure the boys. Nearly a year after Mr. Howitt's return from the ceremony he was visited by one of the principal men of the Murring tribe, who had travelled about three hundred miles from his home to fetch back the teeth. The man explained that he had been sent for them because one of the boys had fallen into ill health, and it was believed that the teeth had received some injury which had affected him. He was assured that the teeth had been kept in a box apart from any substances, like quartz crystals, which could influence them; and he returned home bearing the teeth with him carefully wrapped up and concealed."

The Dieri tribe of South Australia bound up in emu's feathers the teeth knocked out at initiation, which were kept by the boy's father or next-of-kin until the mouth had healed, and sometimes for long afterwards. Then the father, accompanied by a few old men of the tribe, performed a ceremony for the purposes of taking all the supposed life out of the teeth. This consisted in making a low rumbling noise without uttering any words, blowing two or three times with the mouth, and jerking the teeth a little distance through the hand. After that they were buried some eighteen inches under the ground. There was a significance about the jerking movement, inasmuch as it was intended to signify that thereby all the life was knocked out of the teeth. Had this not been done, it was believed that the boy would have been liable to an ulcerated mouth, impediment in speech, and subsequently a distorted face. Altogether, the ceremony is interesting as an instance of an attempt to break the sympathetic link existing between a man and a severed part of himself by rendering the part insensitive.

No less interesting are the actual rites of the ceremony. Among the Wonghi or Wonghibon tribe of New South Wales, "the youths on approaching manhood attend a meeting of the tribe. The ceremonies of initiation are secret, and at them none but the men of the tribe who have been initiated attend with the novices. At the spot where the ceremonies are to be performed a large oval space is cleared. The old men of the tribe conduct the ceremonies, and 'the medicine man'

of the tribe is master of them. Part of the proceedings consists of knocking out a tooth and giving a new designation to the novice, indicating the change from youth to manhood. When the tooth is knocked out, a loud humming noise is heard, which is made with an instrument of the following description: A flat piece of wood is made with serrated edges, and having a hole at one end, to which a string is attached, and this swung round produces a humming noise. The uninitiated are not even allowed to see this instrument. Women are forbidden to be present at these ceremonies, and should one, by accident or otherwise, witness them, the penalty is death. The penalty for revealing the secrets is probably the same. When everything is prepared the women and children are covered with boughs, and the men retire with the young fellows who are to be initiated to a little distance. It is said that the youths are sent away a little distance one by one, and that they are each met in turn by a Being who is believed to be something between a blackfellow and a spirit. This Being, called Thuremlin, it is said, takes the youth to a distance, kills him, and in some instances cuts him up, after which he restores life to him and knocks out a tooth. Their belief in the power of Thuremlin is undoubted."

This foregoing account, though applying strictly to one tribe only, may be taken as typical of the initiation ceremonies on young men throughout the tribes of South-eastern and Central Australia, except that with the central tribes the practice of "knocking out a tooth on these occasions is replaced by the equally mysterious and much severer bodily mutilations of circumcision and subincision, which are not practised by the tribes of the South-east." The peculiar instrument which is made to hum or boom during the operation of extracting the tooth is the now well-known bullroarer which figures in many savage rites of initiation. Its real nature is concealed from the women and lads, who are taught to believe that its sonorous notes are the voice of the mythical Being, sometimes called Daramulum, who lives in the sky, instituted the rites, and superintends their performance. The hollow roar of the slat of wood as it is swung round and round "represents the muttering of thunder, and the thunder is the voice of Daramulum, and therefore its sound is of the most sacred character."

The Basutos, it is interesting to note, are very careful to hide their extracted teeth against their falling into the hands of certain mythical beings termed *baloi*, who are believed to haunt graves, and have the power of harming the owner of the tooth by working magic on it. A curious analogy to this belief occurred some half-century ago in Sussex, when a servant girl remonstrated strongly against the throwing away of children's cast teeth, saying that should they be found and gnawed by any animal the child's new tooth would be like the teeth of the animal that had bitten the old one. In proof of this assertion, the

maid named "Old Master Simons" who had a very large pig's tooth in his upper jaw, a personal defect that he always said was occasioned by his mother, who threw away one of his cast teeth by accident into the hog's trough. This curious belief has much in common with the superstitious practices intended to replace old teeth by new and better ones. Thus in some parts of the world it is customary to place extracted teeth in some place where they will be found by either a mouse or a rat, in the hope that "through the sympathy that continues to subsist between them and their former owner, his other teeth may acquire the same firmness and excellence as the teeth of these rodents." In Germany it is said to be an almost universal maxim among the lower orders to insert an extracted tooth in a mouse's hole. To do this with a child's milk-tooth which has fallen out is believed to possess the efficacy of preventing the child from having toothache. Another German custom is to go behind a stove and throw the tooth backwards over the head, at the same time saying, "Mouse, give me your iron tooth; I will give you my bone one," a practice which is popularly supposed to occasion the teeth remaining good. German children say, "Mouse, mouse, come out and bring me out a new tooth," or, "Mouse, there is an old tooth for you; make me a new one," while in Bavaria it is held that the observance of this ceremony will cause the child's second tooth to be as white as the teeth of mice!

Among the Southern Slavs, too, children are taught to throw a tooth into a dark corner and say, "Mouse, mouse, there is a bone tooth; give me an iron tooth instead"; and the Jewish children in Southern Russia are said to throw their teeth on the roof with the same request to the mouse to give them an iron tooth for a tooth of bone. And a very similar belief holds good many miles away from Europe—at Raratonga in the Pacific, where, when a child's tooth is extracted, the following chant or prayer is solemnly recited:

"Big rat, little rat!
Here is my old tooth.
Pray give me a new one."

The old tooth is then thrown on the thatch of the house, because rats make their nests in the decayed thatch. It is supposed that the reason for invoking the rats on these occasions is due to the fact that rat's teeth are the strongest known to the natives.

Between New Guinea and the Celebes are the Seranglao and Gorong archipelagoes, the natives of which islands teach their children when they cast a first tooth to throw it on the roof, saying, "Mouse, I give you my tooth, give me yours instead." In Amboyna the custom is the same, but the form of the words is: "Take this tooth thrown on the

roof, as the mouse's share, and give me a better one instead." In the Kei islands—lying to the south of New Guinea—as soon as a child begins to get his second teeth he is lifted up to the top of the roof in order that he may there deposit, as an offering to the rats, the teeth or tooth which has fallen out. At the same time the parent calls aloud, "O rats, here you have this tooth; give him a golden one instead." Similarly, among the Ilocans of Luzon, in the Philippines, when children's teeth are loose, they are pulled out with a string and put in a place where rats will be likely to find and drag them away. In ancient Mexico, also, when a child was cutting a new tooth, the parents used to put the old one into a mouse's hole, believing that if this precaution were not taken the new tooth would not issue from the gums.

A slightly different, but more barbarous application of the same principle obtains in Swabia, where, when a child is teething, the head is bitten off a mouse and hung round the child's neck by a string. Care is taken that no knot shall be in the string, or otherwise the child will not teeth easily. In Bohemia the custom is similar with the exception that a red thread is invariably used, and three heads of mice are strung upon it instead of one.

The bringing of strong teeth to a child, however, is not exclusively done through the kindly offices of a mouse or rat, for apparently any strong-toothed animal will serve the purpose equally as well. Thus when his or her tooth drops out, a Cingalese will throw it on the roof, saying, "Squirrel, dear squirrel, take this tooth and give me a dainty one." In Berlin, the teeth of a fox worn as an amulet round the child's neck is supposed to make teething easy for him, and at the same time ensures that his teeth shall be strong and lasting. And with much the same purpose in view the aborigines of Victoria fasten to the child's wrist the front tooth of a kangaroo which is used as a coral to rub its gums with; while possibly from the fact that the beaver is endowed with the ability to gnaw through the hardest wood, the Cherokee Indians, when the loosened tooth of a child has been pulled out, or has dropped out of itself, encourage him to run round the house with it, repeating four times, "Beaver, put a new tooth into my jaw," after which the old tooth is thrown upon the roof of the house. In Macedonia, a child carefully keeps for a time its first drawn tooth, and then throws it on the roof with this invocation to the crow:

"Oh, dear crow, here is a tooth of bone,
Take it and give me a tooth of iron instead,
That I may be able to chew beans,
And to crunch dry biscuits."

The Thompson Indians of British Columbia practise a most peculiar teeth custom. When a child loses its teeth the father takes each one

as it falls out and hides it in a piece of raw venison, which is given to a dog to eat, the animal swallowing the meat and the tooth with it. Doubtless it is considered that this custom will ensure the child's teeth being as strong as those of the dog. Silesian mothers sometimes indulge in the—to our mind—revolting custom of swallowing their children's cast teeth, in the belief that by so doing they will be prevented from having toothache. The intention is also, perhaps, to strengthen the weak teeth of the child by the strong teeth of the grown woman. A similar practice is current among the Warramunga tribe of Central Australia, for when a girl's tooth has been knocked out at a religious ceremony it is pounded up and the fragments placed in a piece of flesh, which is then eaten by the girl's mother. When the same rite has been performed on a man, the pounded tooth must be eaten in a piece of meat by his mother-in-law.

When the tooth of an Arab boy fell out it used to be the custom for him to take it between his finger and thumb and throw it towards the sun, exclaiming, "Give me a better for it," after which little performance his teeth were sure to grow straight, close and strong. It was expected that the sun would give "the lad from his own nursery-ground a tooth like a hailstone, white and polished." This peculiar invocation of the sun is also resorted to by the peasants of Lebanon. The children upon losing a milk-tooth throwing it up towards the sun, at the same time saying, "Sun, sun, take the ass's tooth and give me the deer's tooth." The Armenian sometimes buries his extracted teeth at the edge of the hearth, with this prayer: "Grandfather, take a dog's tooth, and give me a golden tooth." Indeed, the teeth are carefully hidden by the Armenians, usually in some holy place, such as a crack in a church wall, a hollow tree, or a portion of the house, as indeed are their cut hair and nails, the belief being that all these severed portions of themselves will be required at the Resurrection.

But there is no end to the curious magical properties which teeth are supposed, in some quarters of the globe, to be endowed with. The Cholones of Eastern Peru believe that to carry the poison tooth of a serpent is an infallible protection against the bite of a serpent, and that to rub the cheek with the tooth of an *ounce* is a remedy for both toothache and faceache. In West Africa certain teeth are credited with being rain charms, and the possession of them is jealously guarded, for otherwise no rain would fall. When the King of Cassange, in Angola, dies, an official extracts a tooth from the deceased monarch's head, and presents it to his successor, who deposits it along with the teeth of former kings in a box, which remains the sole property of the crown and without which no King of Cassange can legitimately exercise the regal power.

As a cure for toothache many of the Australian blacks apply a

heated spear-thrower to the cheek, the spear-thrower then being thrown away, when the toothache departs with it in the shape of a black stone called *karriitch*. Stones of this kind are found in sand hills, and are carefully collected and thrown in the direction of enemies in the belief that they will contract toothache.

A popular German cure for toothache consists in boring a hole in a tree, and placing some of the sufferer's hair in it. If, as no doubt it does, the tree suffers the torments of toothache, it says much for it that it bears the malady with a stoical calm, giving no sign of the pain which it inwardly bears! According to another authority a German method of obviating the toothache is "to go to a tree in silence before sunrise, especially a willow tree, make a slit in the bark on the north side of the tree, or on the side that looks towards the sunrise, cut out a splinter from the place thus laid bare, poke the splinter into the aching tooth till blood comes, then put back the splinter in the tree, fold down the bark over it, and tie a string round the trunk, that the splinter may grow into the trunk as before. As it does so, your pain will vanish; but you must be careful not to go near the tree afterwards, or you will get the toothache again. And any one who pulls the splinter out will also get the toothache. He has, in fact, uncorked the toothache which was safely bottled up in the tree, and he must take the natural consequences of his rash act."

In Persia, as well as in some parts of France and Germany, a simpler plan is practised. This consists in merely scraping the aching tooth with a nail or twig till it bleeds, and then hammering the nail or twig into the tree. It is said that an old lime tree at Evessen, in Brunswick, is actually studded with nails of various shapes, including even screw-nails, which have been driven into it by people suffering from the gnawing pains of toothache. In Brandenburg it is the rule for the custom to be performed when the moon is on the wane, and the nail knocked, in absolute silence, into the north side of an oak tree, where the sun cannot shine on it. It is believed that after this ceremony the person in question will never suffer again from his teeth so long as the particular tree remains standing.

The "bottling-up" of toothache has not been exclusively confined to the tree or log, for stones, door-posts, walls, etc., have served the purpose just as well. Near Port Charlotte, in Islay, there is a large boulder, the driving of a nail into which ensures immunity from teeth trouble. A farmer of the district informed an enquirer some years ago as to how a passing traveller cured his grandmother of toothache by knocking a nail into the lintel of the kitchen door, warning her at the same time to keep the nail there, and if by any chance it should become loose to tap it with a hammer to prevent its falling out. She is said to have had no more toothache for the rest of her life. A very similar

procedure obtains in some parts of Northern Africa. Certain Arabic letters and numbers are written on the wall, and then, while the patient places a finger on the aching tooth, a nail is knocked into the first letter on the wall, a verse of the Koran being recited at the same time. The sufferer is then asked if the pain has abated, and if he answers "Yes" the nail is drawn out entirely; if "No" the nail is shifted to the next letter on the wall, and so on, until the pain disappears, "which it always does sooner or later." In much the same way toothache sufferers in Japan fix needles into a willow tree, "believing that the pain caused to the tree spirit will force it to exercise its power to cure."

Dental Schools Combine

New Institution Becomes Regular Department of Columbia

Consolidation of its school of dentistry with the College of Dental and Oral Surgery of New York was announced August 18, 1923, by Columbia University. The combined institution, a regular department of the university, analogous to the medical and other schools and styled the Columbia School of Dental and Oral Surgery, will begin the academic year with between 500 and 600 students, making it one of the large dental schools in the country.

Columbia University, as an incident of the merger, acquires the property of the College of Dental and Oral Surgery, whose buildings at 302-306 East Thirty-fifth Street become the home of the Columbia school, until now in Fifty-ninth Street.

Dr. Frank T. Van Woert of Columbia, continuing as Professor of Clinical Dentistry, heads the amalgamated schools as Director, the post he has occupied in the university's administrative organization. Some members of the Faculty of the old college will remain. Dr. William Carr retires as Dean, becoming honorary director of the new school, which will confer the degree of D.D.S. on matriculated students of the old college who attain the required standards.

Promotion of Dr. Anna V. Hughes, Assistant Professor of Preventive Dentistry, to a full professorship was announced. Dr. Clarence T. Van Woert and Dr. Albert M. Wilbor, lecturers in prosthetic dentistry, have been advanced to the grade of assistant professor.

The College of Dental and Oral Surgery of New York dates its history back to 1852, when the New York College of Dentistry was founded. Instruction in dentistry at Columbia began in 1916. In March of the following year a school of dentistry was established.—

(New York Times.)

General Reading List

Reprinted from Booklet of The University of Minnesota College of Dentistry

LEARN THE RULES OF THE GAME

"It is a very plain and elementary truth," writes Huxley,* "that the life, the fortune, and the happiness of every one of us, and more or less, of those who are connected with us, (do) depend upon our knowing something of the rules of a game infinitely more complicated and difficult than chess. It is a game which has been played for untold ages, every man and woman of us being one of the two players in a game of his or her own. The chess-board is the world, the pieces are the phenomena of the universe, the rules of the game are what we call the laws of Nature. The player on the other side is hidden from us. We know that his play is always fair, just and patient. But also we know, to our cost, that he never overlooks a mistake, or makes the smallest allowance for ignorance. To the man who plays well, the highest stakes are paid, with that sort of overflowing generosity with which the strong shows delight in strength. And one who plays ill is checkmated without haste, but without remorse.

"My metaphor will remind some of you of the famous picture in which Retzsch has depicted Satan playing at chess with man for his soul. Substitute for the mocking fiend in that picture, a calm, strong angel who is playing for love, as we say, and would rather lose than win—and I should accept it as an image of human life.

"Well, what I mean by Education is learning the rules of this mighty game. In other words, education is the instruction of the intellect in the laws of Nature, under which name I include not merely things and their forces, but men and their ways; and the fashioning of the affections and of the will into an earnest and loving desire to move in harmony with those laws. For me, education means neither more nor less than this. Anything which professes to call itself education must be tried by this standard, and if it fails to stand the test, I will not call it education, whatever may be the force of authority, or of numbers, upon the other side."

To learn the laws of Nature, including not merely things and their forms, but men and their ways; and "to fashion the affections and the will into an earnest and loving desire to move in harmony with those laws." Here we have an ideal of education set forth by one of the master minds of all time, a pioneer whose work has revolutionized educational thought. So fearlessly thought out and so simply stated, at first it seems not difficult. But studied for a little, it is not so simple;

*Essay on a Liberal Education, Lay Sermons, Addresses, and Reviews.

rather, it is a life job. It will require the most constantly alert observation and the utmost study. For us of this century, however, there is every aid. The fields of literature, of travel, of history, have been mapped out for us by the great explorers. Their results are permanently at hand in the form of books. We are stupid indeed if we do not make use of them. The list of books which follows has been compiled in the hope that it may open up these fields and reveal their beauty. It makes no pretense to completeness, nor to system; but it includes nothing which has not at some time been of help to at least one student in learning the rules of the game.

Amiel, Henry Frederic. *The Journal Intime.*

Arnold, Matthew. *Culture and Anarchy.*

Bacon, Francis. *Essays.*

Balzac, Honoré de. *The Country Doctor.*

Butler, Samuel. *The Note Books.*

Brieux, Eugene. *Damaged Goods.*

Carlyle, Thomas. *Sartor Resartus; Hero Worship; Past and Present.*

Carpenter, Edward. *Towards Democracy; England's Ideal; Civilization, Its Cause and Cure.*

Dickinson, G. Lowes. *Appearances.*

Emerson, Ralph Waldo. *Conduct of Life.*

Fisher and Fisk. *How to Live.*

Goethe, Johann Wolfgang. *Wilhelm Meister's Apprenticeship.*

Griggs, Edward Howard. *The Philosophy of Art.*

Hamerton, P. G. *The Intellectual Life.*

Harrison, Frederic. *The Choice of Books.*

Hazlitt, William. *Table Talk.*

Hearn, Lafcadio. *Japan, an Interpretation.*

Henderson, C. H. *Education and the Larger Life; Pay Day.*

Holmes, Oliver Wendell. *Medical Essays.*

Hugo, Victor. *Les Misérables.*

Huxley, Thomas. *Lay Sermons, Addresses, and Reviews.*

Ibsen, Henrik. *Ghosts; Pillars of Society; An Enemy of the People.*

James, William. *Psychology, Briefer Course; Talks on Psychology and Life's Ideals.*

Nitobe, Inazo. *"Bushido" the Soul of Japan.*

Osler, William. *Aequanimitas with Other Addresses.*

Palmer, George Herbert. *The Field of Ethics; The Nature of Goodness.*

Plato. *The Republic.*

Ruskin, John. *Sesame and Lilies; Munera Pulveris; Fors Clavigera.*

- Stevenson, Robert Louis. *Virginibus Puerisque and Other Papers; An Amateur Emigrant; Letters to a Young Gentleman Who Proposes to Embrace the Career of Art; Pulvis et Umbra; Lay Morals.*
- Tagore, Rabindranath. *Nationalism.*
- Thackeray, W. M. *Pendennis.*
- Thomson, Arthur. *Introduction to Science.*
- Thoreau, H. D. *Walden; Life Without Principle.*
- Tolstoy, Leo. *Essays and Letters.*
- Veblen, T. *The Theory of Business Enterprise.*
- Veressayev, Vikenty. *The Memoirs of a Physician.*
- Whitman, Walt. *Leaves of Grass.*
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The Story of Johnny Dontcare's Tooth

"The Story of Johnny Dontcare's Tooth" is told in a set of 23 stereopticon slides recently prepared by the Toledo Public Health Association for use in its campaign of health education, in which lantern slides have an important part. One of Johnny Dontcare's perfectly good teeth went bad because of the usual cause—inattention. The slides, all of them in colors, and all but four illustrated, show just what happened to the tooth, and then tell how the loss of the tooth might have been avoided by proper care and by at least two visits a year to the dentist. By their combination of brief captions in simple words with careful drawings and amusing cartoon illustrations, the slides tell a consecutive story without the necessity for a lecture or spoken address, yet they could be used to accompany a talk on dental hygiene before any audience. The Toledo Public Health Association, 401 Produce Exchange Building, Toledo, Ohio, has arranged to make sets of these slides available to other health agencies and workers at cost price.



DENTAL LAWS

Summary of Dental License Requirements Throughout the World

By Alphonso Irwin, D.D.S., Camden, N. J.

ESTHONIA

Now an independent republic, but formerly a province of Russia. No dental legislation has been reported, but it is probable that medical degrees, standards, and regulations prevail in this republic. Apply to the Minister of Education, H. Bauer, Revaul, Esthonia, for information.

FALKLAND ISLANDS

As dental registration is under the supervision of the Medical Council throughout Great Britain and its Colonies, we therefore quote the following:

"Medical act of the United Kingdom considered to be in force, but there is no special local medical act. Consequently it is unlikely that dental registration is required."

FAROE ISLAND

Danish language; medical supervision, credentials, degrees, examinations and registrations, if any, are official.

FAR EASTERN REPUBLIC

This is a part of the new Russia in Central Transcaucasia, organized for a buffer state. Legislation is in the formative stage, and no reliable data in regard to the licensing and practice of dentistry is available.

FIJI ISLANDS

Now provides medical education for natives. Medical practice now controlled by government and registration is required. Any one entitled to practice in the United Kingdom or British Colonies may claim admission.

That which is true of Medical and Surgical registration in these islands applies also to the practice of dentistry. Permission to practice dentistry must be obtained from the Governor of a British Colony in the absence of any other lawfully delegated authority, such as the Secretary of the Medical Council.

FINLAND

Finland is a republic, with legislation in the formative stage. No recent accurate official information is available in regard to dental license requirements; the indications point to the conclusion that medically-educated dentists with the educational standards established by the University of Helsingfors are most acceptable, and registered upon complying with the civil regulations and paying the local fees. Address Leslie A. Davis, United States Consul, Helsingfors, Finland.

FLORIDA, U. S. A.

BOARD OF DENTAL EXAMINERS

W. S. Hall, President; R. P. Taylor, Sec'y-Treas., St. James Building, Jacksonville, Florida; W. A. Dean, — — — —; A. B. Whitman, Orlando; E. H. Clarkson, Jacksonville. The dental laws are dated June 7th, 1887, May 25, 1899, May 17, 1911, and a repeal in 1915 of Section 3. The English language, dental supervision, registration and examination are required; fees \$20.00; \$5.00 for the certificate if granted. Examinations are held in June, at Jacksonville, Miami, or as announced prior to the meeting.

INFORMATION REGARDING EXAMINATIONS IN THE STATE OF FLORIDA,
AND THE RULES GOVERNING THEM.

Rule I. All persons who wish to practice dentistry in this State must fill out and send to the Secretary of this Board an application, a blank form of which will be furnished by the secretary.

Rule II. In all cases the application must be accompanied by the applicant's dental diploma. If the applicant is about to graduate, and his dental diploma has not been granted before the examinations begin, he may present in lieu of it a certificate properly filled out and signed by the dean or secretary of his college, certifying that he has completed, or will complete, the required course in dentistry, and will be awarded his diploma.

Rule III. All applications and credentials should be in the hand of the secretary at least ten days before the date of examination.

Rule IV. The fee for all examinations is (\$20.00) twenty dollars, and (\$5.00) five dollars for certificate if granted.

Rule V. The fee for re-examination, in case of failure to pass, is (\$20.00) twenty dollars.

Rule VI. No fee will be returned to an applicant after he has filed his application and entered upon his examination.

EXAMINATIONS

Rule VII. *Theoretical* The examinations shall be written or oral

or both, in the following subjects: Anatomy, Physiology, Histology, Bacteriology, Pathology, Materia Medica, and Therapeutics, Metallurgy, Orthodontia, Oral Surgery, Oral Hygiene, Anesthesia, Operative Dentistry and Prosthetic Dentistry, Chemistry.

Rule VIII. *Practical Operative Dentistry.* Each applicant must come prepared to insert gold, amalgam, silicate fillings, and make wax model for gold inlay. Each cavity, when prepared, must be inspected by the examiners before filling is inserted. Patient and operating chair will be furnished by the Board, but all materials and instruments (including dental engine) must be supplied by the applicant.

Rule IX. *Practical Prosthetic Dentistry.* Each applicant must prepare bite-plates on upper and lower models, mounted on a Gysi articulator, set up teeth with normal occlusion and finish to the point of flasking. Articulator and gas will be furnished free, and teeth by the examiner in charge at market price, all other materials and instruments by the applicant.

Rule X. *Practical Crown Work.* Each applicant must construct complete a porcelain faced (Richmond) crown. A prepared, natural, anterior upper root must be embedded in a plaster model, mounted on an articulator with a model of the occluding teeth, and the crown made on this root. Gas, air and blowpipe will be furnished, and the porcelain facing, by the examiner in charge, at market price; all other materials and instruments, including crown articulator, by the applicant.

Rule XI. The Board, at its discretion, may change or add to any of the requirements under the three preceding rules.

Rule XII. The law makes no provision for temporary licenses to practice between examinations, and none will be granted; nor does Florida reciprocate with any other State.

Rule XIII. In the theoretical work of the examination the applicant must have a general average of seventy-five per cent. In practical operative, and in practical prosthetic and crown work, if the applicant falls below seventy-five per cent he shall fail to pass; but he may be re-examined on that in which he failed at the next regular meeting.

Rule XIV. All written examinations shall be on paper furnished by the Board.

Rule XV. At the opening of the examination the applicant will be furnished with an envelope containing a card with a number. The applicant will write his or her name on this card, seal the envelope, and use this number on all examination papers. *In no case shall the applicant's name appear on the examination paper.* The sealed envelope will be handed to the secretary and will not be opened until all papers are graded.

Rule XVI. Anyone detected in trying to give or obtain aid shall be dismissed from the class and his or her paper for the entire work will be rejected.

Rule XVII. All writing must be legible, and together with spelling and use of correct language, will be taken into account in grading the answers. A correct set of answers to the questions on any one paper shall entitle the writer to the full mark on that subject, viz: one hundred points. Partial or imperfect answers will be graded by the examiner in accordance with their degree of fullness and correctness.

Rule XVIII. Applicants are expected to be punctual at all examinations.

Rule XIX. Read the questions very carefully and *do not give any information in the answers that is not asked for.*

Rule XX. Write answers in the order of the questions. *Do not copy the questions on your examination paper,* but write the number of each question, in Roman numerals, in center of page before the answer.

Rule XXI. Papers containing the questions must be returned to the examiner, if he so directs.

Registration with the Clerk of the Circuit of the County in which the licensee intends to practice; also with the Secretary of the Board of Dental Examiners. No interchange of dental license.

R. P. Taylor, Secretary-Treasurer,
St. James Bldg., Jacksonville, Florida.

LAW APPROVED MAY 17TH, 1911—ABSTRACT REGARDING
EXAMINATIONS

Sec. 6. Each person who desires to practice dentistry or dental surgery, or any branch thereof, within this State, shall file with the Secretary of said Board a written application for a permanent certificate, and furnish satisfactory proof that he is at least twenty-one years of age, of good moral character, and present evidence satisfactory to the Board that he is a graduate of a reputable dental college as defined by the National Association of Dental Examiners. Such application must be upon the form prescribed and furnished by the Board and verified by the oath of the applicant.

Sec. 7. When such application and accompanying proof are found satisfactory, the Board shall notify the applicant to appear before it for examination at a time and place to be fixed by the Board. Examination may be made orally or in writing, or may be practical or theoretical, or both, at the discretion of the Board, and shall be of such a character as to test the qualifications of the applicant to practice dentistry or

dental surgery. Should the applicant pass a satisfactory examination, he shall be granted a certificate by the Board, signed by all members present, and bearing the seal of the said Board, which certificate when duly recorded as herein provided, shall be conclusive evidence of his or her right to practice dentistry or dental surgery in this State.

R. P. Taylor, Secretary-Treasurer,
St. James Bldg., Jacksonville, Florida.

FORMOSA

The regulations for dental practice in Formosa are the same as for medical practice. We submit a translation of the regulations issued June 10, 1885:

1. In order to practice medicine in Formosa, it is necessary to hold the license to practice medicine from the Minister of Home Affairs (of the Japanese Government), or a permit from the Governor-General of Formosa.

2. When one who possesses the medical license issued by the Minister of Home Affairs wishes to practise medicine, he is required to fix the place and apply with the license, at the district office within five days after commencing medical practice.

3. The applicant for a permit shall present his application, together with a history of his studies in medicine, to the Government of Formosa, through the district office.

4. The permit to practise medicine holds good only in Formosa and the Pescadores, but the boundary may be further restricted at the discretion of the Governor-General.

5. The receiver of the permit shall pay a fee of five yen (\$2.49) on the delivery of the permission certificate.

6. For copies of the permission certificate, a fee of one yen shall be paid.

7. If the holder of the license issued by the Minister of Home Affairs wishes to cease practising medicine, he is required to notify the district office to that effect.

8. The Governor-General may at any time suspend the license, or prohibit the practice of a physician found guilty of crime or unlawful acts in the exercise of his profession.

9. The district office is requested to transmit at once to the Governor-General of Formosa the permission certificate of which a physician has been deprived through prohibition in accordance with Section 8. In case of suspension of medical practice, the date of suspension shall be noted on the back of the permit which shall be returned to the offender.

10. A physician whose medical practice has been prohibited or suspended by the Minister of Home Affairs shall be incapacitated from future practice, or during the time of suspension only, as the case may be.

11. Any person who carries on medical practice without a permit, or who practices medicine outside the limited boundary, is liable to a fine of not more than twenty-five yen, or to imprisonment for not more than twenty-five days.

12. For violation of Article 2, a physician shall be liable to a fine of not more than one yen and ninety-five sen.

13. Prefects and chief officials of islands within the jurisdiction of the Formosan government may be authorized to make regulations for control of physicians.

14. These regulations shall be enforced on and after the first day of the seventh month of the twenty-ninth year of Meiji.

The Governor-General of Formosa promulgated the Dental Law in 1916, and any person qualified as in Chosen (Korea), excluding those who come under clause 4, is granted a license. The Government of Formosa does not hold dental examinations.



DENTAL ECONOMICS

Collecting Your Bills

(NOTE—Members of the dental profession are probably as lucky in collecting their bills as the average mortals in other lines of activity. There are times, however, when an encounter with a tightwad or a rascal who tries to get something for nothing makes a dentist feel that sympathy in business is a losing game. The following account of the efforts made to collect a small bill for legitimate work done will serve to point a moral and adorn a tale.)

The balance of an account owed Dr. A—— by Mr. Smith in July, 1917, was \$18.50:

Dr. A—— after trying to collect this bill finally in June, 1921, received from Mr. Smith the following letter:

Dr. A——

Dear Sir:

I have never written to you to explain just why the account you claim I owe you has been left unpaid; but since receiving your notice of recent date thought I should explain. The dental work rendered by you, and guaranteed by you for five years, proved very unsatisfactory; for in less than one year from the time the work was finished practically all had to be done over by Dr. B—— of ——.

I feel that the work guaranteed by you should have been made good, but not living within one hundred miles of —— it was impossible to have it done, so I had to have it done elsewhere; therefore I feel that I am not indebted to you.

Yours very truly,

V. W. SMITH.

Upon receipt of this letter Dr. A—— wrote to Dr. B—— asking him about the case, enclosing a duplicate chart of the work which he had done. After some time had elapsed and no answer had been received, a second letter was sent which elicited the following reply:

Dr. A———

Dear Doctor:

I remember receiving your letter last summer regarding Mr. Smith's account, and it must have been mislaid, as I intended to answer it. I have no recollection nor any record of working for this patient of yours, although I may have done so.

Respectfully,
B———.

Then Dr. A——— went to his banker Mr. X——— for advice, and he happened to have a cousin in the bank in the town in which Mr. Smith lived, whereupon Mr. X——— wrote to Mr. Y——— of Mr. Smith's bank. The following letters show how the matter was finally settled.

My Dear Mr. X———

I am enclosing herewith our draft, on The First National Bank of ——, for eighteen dollars and fifty cents (\$18.50), in payment of your collection on Mr. Smith.

Mr. Smith happened to come in the bank shortly after I received your letter, so I spoke to him about it and had him pay it to save any costs in the matter.

Sincerely yours,
Y———.

The bill was finally collected in January, 1922, four and one-half years after it had been first rendered, and six months after definite negotiations were started.

Dear Dr. A———

I am enclosing herewith draft for \$18.50, from the First National Bank of —— to the Third National Bank of —— to my order, which I have indorsed over to your order in full of your claim against Mr. Smith for dental services.

I am also enclosing the letter of Mr. Y———, Assistant Cashier of that bank, who (as I think I told you) is a cousin of mine, showing just how neatly the whole thing was managed. Mr. Y——— was formerly a dentist and doubtless understood your situation, and advised Mr. Smith that no sane dentist would give such a guarantee as he *says* was done in your case.

I think we may congratulate ourselves on the lucky disposition of this whole matter.

Yours very truly,
X———.

Figure It Out for Yourself

According to National Health Council literature, which utilizes information contained in the vital statistics charts of life insurance companies, it is not so difficult to tell the period during which a man will retain his health or will live. The following is one of the simple problems used by the life companies with considerable accuracy in determining length of life: Subtract your present age from 80, and if one's health is good you will probably live for about two-thirds of the difference. However, the correctness of this plan depends entirely on whether your health is good or not. It is frequently the apparently small causes—a bad tooth, infected tonsils, etc., which may lay the foundation of future serious troubles, so the advice is to be careful or the insurance companies will tell you where you get off.

Fixing the Fee

The surgeon charged five hundred bones for delving in my anguished frame. "Great Scott!" I cried, in wrathful tones, "why do you play such sinful game? It only took a little while to amputate that priceless wen, to ply your bucksaw and your file, and sew my system up again." "The time it took me cuts no ice," the sawbones said; "that is my bill; I did the work desired, my price is based upon my hard won skill. For years I studied day and night when other youths were out at play, that I might wield the scalpel right, and slice my patrons' wens away." "I never viewed the matter thus," I said, with something of remorse; "I'll pay you with no further fuss—here is my check, which you'll indorse." "This check is for a hundred bucks," exclaimed the surgeon, in a trice. "Now, by Saints Calomel and Nux, I said five hundred is my price." "The signature upon that check," I said, "has caused me sleepless nights; I practiced it for years, by heck, before I got it dead to rights. When others trotted with the fox or bunny-hugged the night away, I toiled with pencils, pens and chalks to make my signature O. K. I do not charge you for the ink, although it's of a costly blue, but for my wizard's skill, I think, I ought to have a rakeoff, too."—WALT MASON.



PRACTICAL HINTS

This department is in charge of Dr. V. C. Smedley, 604 California Bldg., Denver, Colo. To avoid unnecessary delay, Hints, Questions and Answers should be sent direct to him.

NOTE—Mention of proprietary articles by name in the text pages of the DENTAL DIGEST is contrary to the policy of the magazine. Contributions containing names of proprietary articles will be altered in accordance with this rule. This Department is conducted for readers of the DENTAL DIGEST, and the Editor has no time to answer communications "not for publication." Please enclose stamp if you desire a reply by letter.

Editor Practical Hints:

I wish to get your advice and opinion in regard to a point in fixed bridge construction. In cases where a second bicuspid or a first molar is to be supplied, particularly in the upper arch, do you consider it advisable or permissible to support the mesial end of the bridge by a rest on the occlusal of the first or second bicuspid, as the case may be, without using in the bicuspid a filling or inlay or crown, when the bicuspid is without cavities or fillings? If so, would it be advisable to make attachment to the first molar with a large inlay in preference to a gold crown, when the molar is without fillings or cavities?

J. E. W.

ANSWER.—In my opinion it is never permissible to place a loose lug upon unprotected enamel in fixed bridge work, though a loose end attachment with lug resting on or into a slightly dove-tailing or locking depression in an inlay in one of the abutment teeth is often very desirable. I believe that the inlay or inlay-overlay preparation is ample for any bridge support and that the making of any kind of a crown on a sound tooth for the purpose of using it for a bridge abutment is without justification in any case. Preparations for inlays can be made with ample retention that are sufficiently deep-seated and entirely practical in nearly every case by the exercise of a careful knowledge as to the pulpal area in the individual teeth, and by the use of tapering fissure burs and mounted stones in the preparation of these cavities.—V. C. SMEDLEY.

Editor Practical Hints:

I am interested in making two-piece gold crowns at the chair, directly in the mouth.

Could you suggest a quick way of making these crowns, also the cusps, and what the average cost of such a crown would be?

J. Z.

ANSWER.—I do not think this type of crown should be made at all, as I do not believe a crown can be so made to reproduce the normal peripheral and occlusal contour of any particular tooth as accurately as these things can be reproduced with a crown carefully carved in wax and cast. If, however, you are bound to make a two-piece crown at the chair, I would suggest that a fairly satisfactory result may be obtained by first preparing the root properly with the elimination of all contour and accurately fitting a 28-gage, 22-carat gold band to same. This band should then be shaped as best you can with pliers to simulate the buccal, lingual and approximal contours of the particular tooth to be supplied. Then take an ordinary metal cusp die-plate, select a cusp form that approximates most closely the desired shape and size, swage into this a piece of pure gold 34 or 36-gage. Tack this pure gold cusp to the band with high-carat solder, fill it with soft wax and set in place upon the tooth. Have the patient close and grind upon the pure gold cusp supported by the soft wax to perfect the occlusion, then burnish and contour this pliable gold cusp with smooth amalgam burnishers to simulate as accurately as possible the correct pits, fissures and general contour. Remove the crown and imbed in wet asbestos fibre, heat up immediately with blow-torch and flow a liberal amount of solder into the pure gold cusp. Polish, fit to root and cement. The fee for such a crown should be from ten to twenty dollars. For a skillfully carved and fitted cast gold crown the fee should be from twenty to fifty dollars.—V. C. SMEDLEY.

Editor Practical Hints:

Please advise me of the best method of taking care of boy's tooth, age 18, broken off playing basketball. Tooth turned black and was loose. Tooth was drilled into and nerve taken out and blood clot removed and sealed up. Tooth is a trifle sore yet, which is several weeks after nerve was taken out. Tooth was dead from blow.

In regard to best method of taking care of said tooth, I thought it should be taken out and removable bridge put in as the best possible way of taking care of this case. Please give me your advice in regard to same.

C. J. N.

ANSWER.—For a lad of eighteen with good health and normal resistance I think that what you did do was much more nearly right than what you figure you should have done, that is, in case your root canal technic was wisely and skillfully executed.

With tooth remaining sore, I should certainly want an x-ray picture to check up on the canal filling and apical condition.

—V. C. SMEDLEY.

Editor Practical Hints:

I should like information on the following case: Baby 11 months old; four upper incisors and two lower incisors erupted. Teeth were slow in erupting but are now entirely through the gums. For about three months there has been pus with marked inflammation about the upper teeth, and recently the gums about the lower teeth have become infected in the same way. The condition has made the child very nervous and fretful. The family physician, not knowing how to relieve the condition, sent her to me. I advised frequent washing of the infected area with a peroxide solution. Teeth are normal and in correct position and I can not account for the pus formation.

If you can advise me I will greatly appreciate it. If you care to publish the question with your answer in THE DENTAL DIGEST you may do so.

R. H. B.

ANSWER.—I am inclined to think that this infection must be due to a lowered systemic resistance on the child's part, possibly due to malnutrition, rickets or marasmus, or to a specific history.

—V. C. SMEDLEY.

Editor Practical Hints:

I am going to ask for a moment of your valuable time to help me in the following:

Have taken a course in the so-called Tench method of impression-taking and making of dentures, and have very good results, so good that patients have come for twenty miles for them, but there has been very little dentistry done here for some time past. I know there are many who would like to buy what I have to sell, service of the sort I can and want to render, and I believe there should be some way to reach them that we both may benefit.

Of course, you know all about this so-called "ethics" stuff, and I want to ask if you think it is any real breach to pay for something like this in the local paper:

ARTIFICIAL TEETH—FULL AND PARTIAL SETS

(Signed) _____

Ethics seems to me to mean justice to the patient, the family and yourself, and there are too many dentists in our societies who are con-

sidered ethical on account of the fact that they do not use printers' ink, who are disgustingly unethical to the patient. The faith of the patient is too often betrayed by the dentist, and still he is received with open arms by those inside the fold.

I have no quarrel with the man who does the best he can, but the man who puts on gold crowns without touching the tooth with a stone knows better and is certainly unethical to the patient, but seems to be all right in the eyes of the profession.

It is more or less of a question, as I understand it, whether or not a man should teach his method to other dentists for a good fee, or whether that should be done by the schools, but they do it, and it seems to me to be hardly different from doing the same to the public if you are square.

This is a city of 100,000 and there are many very poor dentures made by so-called ethical members of the profession, where, to my mind, there is no ethics between the dentist and the patient.

The main thing is, I cannot afford to sit in my office with hours and days running past with no income. It seems to me a card like that suggested should bring returns, as people generally do not look upon printers' ink used in that way as we do.

Any suggestions you have to make will be gratefully received.

—IN DOUBT.

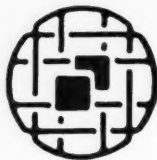
ANSWER.—I really do not make it a practice to answer communications that come to me because of my editorship on the *Digest* unless the questions and answers are suitable for publication under Practical Hints, as through this medium I feel that I may reach and benefit many, possibly hundreds of men, with only one answer instead of just one individual, and you can well imagine, I think, that this correspondence is plenty of tax on my time at best. Your condition is such, however, that I feel that I should give you my opinion on this subject as long as you have solicited same.

My personal opinion is that it would be of no advantage to you to put your name in the paper as you suggest. Every person knows that every dentist makes or attempts to make artificial teeth, and unless you claimed there was such unusual or superior skill, such low price, or some other advantage over your fellow-practitioners the public would not be apt to pay much attention to your ad. If you use the simple statement as you suggest, you would be on the border line of ethics but not grossly culpable. If you write the kind of an ad that would really interest the public, claiming to offer them distinct advantages either in service or price you become immediately grossly unethical. I believe that the best, quickest and most desirable way for a dentist to build up a practice of the type that he prefers is for him to contrive

to keep busy practically all of the time, doing the kind of work that he prefers to do by giving the impression among the people who come to him for work, few as they may be at first, that he is primarily interested in serving humanity and that he does his very best work for all who come to him at such fees as the individual can well afford to pay. Have your regular fee for dentures and get a satisfactory price, but never turn anyone from your office because of the price. Have a distinct price or financial understanding in every case, however, so that you are sure to get paid what is agreed upon.

You might much better be working practically all of the time even though you do not get paid for more than the materials used for part of this work. These people, if you handle them right, will be appreciative of your generosity and service and will be constant boosters and practice-builders for you. Often those people who can pay little or nothing themselves can be influential in sending patients who can pay a generous or liberal fee.

Many men get the idea, when they have improved their technic and the quality of their product by taking some of these advanced courses, that they are able to render their patients a much more valuable service (which they no doubt are), and they straightway raise their fees sufficiently to pay them for their time and increased skill. This is correct and perfectly justifiable, but it is a mistake, I believe, for a man while trying and needing to build a practice to turn any patients from his office because of his inability to convince them that they require a service justifying this advanced fee, or that they can afford to pay such a fee.—V. C. SMEDLEY.



CORRESPONDENCE

What Do You Think?

Editor DENTAL DIGEST:

Enclosed please find a tooth I just extracted. Comment by me seems superfluous. Patient's age sixteen years; repair made over three years ago; process absorbed to short apex piece. Hope you can condemn that kind of dentistry better than I.

X. Y. Z.



Three Views of the Tooth in Question.

Dear Doctor:

All of us in the office were much interested in your letter and the upper central which you enclosed, as just extracted. You state that this was from a patient sixteen years of age and that it had been in place three years.

At first glance, it appears like a very crude piece of dentistry and one upon which adverse comment might readily be passed. But I wonder whether another interpretation is not possible.

This accident happened to a thirteen-year-old patient. The blow

sustained was sufficient to break the crown from the tooth and I believe it also broke the root about two-thirds of the way from the gum margin to the apex, nearly at right angles to the long diameter. It is probable that the repair was made while there was still considerable congestion of the tissues and it is quite possible that the tooth was not fully erupted from the gum. It is very probable that the joint between the crown and the end of the root was located far enough in the tissues to be very difficult of access.

It is probable that the technic used in replacing the crown, that is, in securing a good joint between the crown and the broken end of the root, might have been considerably improved upon, and a much smoother joint secured. The open space resulting from faulty joining of the crown and end of the root might have been sealed with gutta-percha or something of that sort to prevent the leakage which has occurred.

But on the other side there is this much to be said. The crown was probably much more natural in appearance than any porcelain crown that could have been put upon the root. The fracture of the end of the root was of such form that it would have required a very fine technic to set a porcelain crown there satisfactorily. The break across the root, as concealed in the tissues, would have condemned even the finest piece of mechanical restoration to failure probably within this length of time.

If this were my boy, I should a good deal rather have had this work done, even as roughly as it was done, if it lasted three years and preserved the arch in form and natural appearance than have a fine job with a porcelain crown.

In other words, this is merely another example of the fact that you never can tell, by seeing a piece of dental work out of the mouth or after it is completed, whether it is a good piece of work or a bad piece, and whether it deserves praise or blame, because you cannot see all the conditions under which it was done. I think the chap who did it might have improved his technic in important details, though I do not think they would have made the work permanent, because I do not believe it was humanly possible to do so. But I do think that he showed a good deal of ingenuity and common sense. If it were my boy, I should take a pretty charitable view of this piece of work.

GEORGE WOOD CLAPP.

Editor DENTAL DIGEST:

It surely is refreshing to find there is still charity among dentists for dentists!

Let me say in answer to your letter that some of my statements were incorrect and incomplete (though not so intended). First, the lad is now fourteen instead of sixteen, so the accident happened at eleven years. Second, the work was done to last until the adjoining teeth were fully erupted only (though neither he nor his parents were impressed with the importance of returning).

Your thought, that the tooth would maintain the space is good but in this case, worked (I think) to his disadvantage. From irritation, the lower teeth and tongue have worried this one, pushing it forward. Consequently, the others are advanced in the arch also and the spacing is very conspicuous. So I am still of the opinion that the work as done and the incomplete advice call for censure and not praise.

X. Y. Z.

Dear Doctor:

As it is well known, patients and parents are prone to forget, or at least disregard, instructions to return for future treatment, we still believe that the dentist who did the temporary work is worthy of praise.

THE EDITOR.

Editor DENTAL DIGEST:

I notice in your August issue a funny letter received by a dentist and published by you. I was in need of a dental mechanic some time ago and a gentleman called me on the phone from San Francisco and made an appointment to see if he could fill the bill. He called in about an hour but I saw at once he would not do; the next day I received the following letter:

F. L. B.

may 12 twelf.

dear Doctor

seven years ago was easy for a mechanic when called for a dentist just for to know him, for try him, only for a wwk or permenantly, but today the laboratory mechanic no matter how great are his abillitys to work have to have some care for expenses and \$1.00 or \$2.00 invested in high price rail rates means some in the support of his self. when calle for to show him a cigar only.

Yours respectlly,

F. T.

The payment of the adjunt means for me easy application and im-

mediate answer when you call me next time to work for you what i
feel glad to do any time.

(The following bill was enclosed in the letter):

1 cent post card.....	.01
Ferry car30
time-to hours	\$2.00
postage05
	<hr/>
kindly remit	\$2.42 cash



DENTAL SECRETARIES and ASSISTANTS

Secretaries' Questionnaire

All questions should be addressed to Miss Elsie Pierce, care of
DENTAL DIGEST, 220 West 42nd Street, New York City.

I am sure there must be a way to salvage the wax which the doctor uses in taking bite impressions. We have a large box of it. Please tell me what to do so that it can be used again.

I suggest that you get a large galvanized zinc or agateware water pail; place the scraps of wax therein; fill with water to within two or three inches of the top; then slowly bring to a boil, care being exercised to prevent overflowing. This will free the wax from all impurities as well as sterilize it. Remove from the fire and allow to cool to about 170 degrees Fahrenheit. Then take a large smooth-sided bottle filled with cold water (ice water if possible) and quickly dip it into the pail of hot wax, removing instantly. As the cold bottle is withdrawn a thin sheet of wax adheres to the sides and each succeeding dip will increase the thickness of wax to that required. With a sharp knife, cut a line around the bottom and top of bottle also perpendicularly, when the sheet of wax can be easily removed. Lay on a flat board with tissue paper between the strips and press flat. All scraps may be returned to the pail, remelted and allowed to cool, when the pail may be emptied of water and surplus wax placed therein to await next occasion for boiling. The most important feature of this procedure is to keep the dipping bottle cold.

I have been a dental assistant for the past six years, having held two positions during that time. The first, one year and a half and the other the balance of the time. As you know, this is not a large city, the field of endeavor is rather limited, also the salary. I have been thinking for some time that I would like to go to New York and try for a position there. Please advise me as to the possibilities of securing a position, what would be expected of me and what salary should I receive or reasonably expect. I am twenty-five years old and live at home.

R. A. J.

You do not state what your duties have been or say whether you have had experience in a general or specialized practice. Therefore, it is rather difficult for me to judge of your capabilities. New York City is the mecca of most people who think they have outgrown their field of usefulness at home and whose ambitions spur them on to bigger things. In reality it is a maelstrom of humanity living largely by their wits and only too often proving the graveyard of laudable ambitions and ideals.

I have no doubt that you could secure a position in one of the large cities, if you are a competent dental assistant, be it New York or elsewhere, and your salary would largely depend on your ability and the type of practice with which you would become associated. However, may I suggest that prior to your making the decision of resigning your present position, you give careful thought to the very elusive benefits to be gained from a life of turmoil, strife and uncertainty, among strangers in a strange land, as compared with the environment of a safe home life in the midst of your friends?

I am an assistant in the office of a dental surgeon. We use a great many rubber gloves and their care is quite a problem. I should appreciate any suggestions or ideas which you could give me along this line.

At the clinic given by the dental assistants at the recent New York State Dental Convention, Miss Agnes MacNeil gave a demonstration of the care of rubber gloves as follows:

Wash in warm soap-suds, dry carefully inside and out, then dust with talcum powder (unscented), turning back cuff of glove over hand portion. This will avoid touching the parts of the glove coming in contact with instruments or patient when putting them on. Fill each finger with a cotton roll to fit, tied together at base in the shape of a hand. Place gloves in a muslin wrap, made with four compartments, holding two pairs of gloves, then put in autoclave ten minutes under fifteen pounds pressure.

Another method is to boil the gloves in a saline solution for two minutes prior to use.

Kindly publish a method for making separating fluid for the coating of models.

C. D.

There are several ways to do this. However, an old reliable one is to fill a Mason quart jar about half full of gum sandarac which you may purchase from a paint or drug store, then fill the remainder of the jar with alcohol, denatured if grain alcohol cannot be obtained. Cover and set away for several days allowing the sandarac to dissolve; then strain through cheesecloth into another jar from which your serv-

ice bottle may be refilled. Dilute with alcohol to suit your requirements. If a colored solution is desired, put into the jar a small piece of lead from an indelible lead pencil. There are solutions on the market already prepared which you can secure from your dental depot.

Nitrous Oxide Anesthesia*

By Maybelle Hasenstab, South Bend, Ind.

In presenting this paper, I shall endeavor to bring before you, from practical knowledge and clinical experience, the use of nitrous oxide anesthesia in its application in oral surgery and dentistry.

Nitrous oxide is employed generally by exodontists and oral surgeons for the majority of extractions and minor operations. It is doubtless the most satisfactory anesthesia for our work, because of its quick induction, its comfortableness in doing inductions as compared to other general anesthetics, its quick elimination through the lungs, without tax on them or on any other elimination organs, its prolongation and assurance of comparative safety.

The administration of nitrous oxide is accomplished with the minimum of after-effects, usually none whatever, although in some cases nausea or depression, or at times both, may follow. Patients predisposed to nausea, especially if the stomach is full, are likely to be disturbed. In many cases where nausea and vomiting occur, investigation reveals that the food has remained undigested in the stomach for three or four hours. It is not surprising, under those circumstances, if nausea follows. For the administration of a general anesthetic the patient is almost always prepared beforehand and it is given with the stomach empty, while with nitrous oxide there is hardly ever any preparation made in advance. Nausea may result from faulty administration; for example, from too slow or too rapid induction, over-anesthetization or uneven anesthesia. However, undesirable after-effects are not sufficiently frequent to be of any consequence. This is especially remarkable when we stop to consider the highly nervous condition in which patients are when they come to us, especially when they have suffered pain and loss of sleep for several days.

Anesthesia should not be induced too rapidly from the beginning. The character of the anesthetic depends much upon the method of administration. We administer nitrous oxide oxygen in the following manner. In the case of an adult, we start by giving about 95% nitrous oxide and 5% oxygen for about one minute or one and a half minutes.

*Read before the Indiana State Association of Dental Assistants, May 15, 1923.

Then the oxygen is shut off and pure nitrous oxide given until satisfactory anesthesia is produced. We must watch patients closely now to know when and how much oxygen can be given. There are no two people who take nitrous oxide in the same way, so there is no set rule to follow. For children from ten to fifteen years of age we usually take from thirty to sixty seconds, depending upon the nervous condition of the individual child. Children under ten will go to sleep with three or four good inhalations; with them the oxygen should be given right along.

Nitrous oxide acts so quickly that were we to administer it from the beginning without the dilution of oxygen it would anesthetize the nerve centers with which it first comes in contact before there was time for general distribution of the gas and the patient would show pronounced anesthetic symptoms before complete anesthesia was actually accomplished. Hence the combination of oxygen with nitrous oxide has made its administration as a sleep-producing anesthetic one of the safest and most reliable known to science. Observation of symptoms should be carefully noted and watched.

There are three types of individuals that are more resistant to anesthetic influence than others: the athletic type, habitual users of alcohol or narcotics and the highly nervous and hysterical type. These are abnormal types and require from five to thirty seconds and sometimes longer to anesthetize. They are almost always disturbed by dreams, and the character of the disturbance is usually influenced by the mental condition and attitude of the patient before anesthesia is induced. The greatest difficulty is encountered with the over-stimulated type, such as alcoholics or drug addicts, on account of the physiological change due to the drug. Even though anesthesia is carried to the limit of safety and the most pronounced symptoms appear, patients will resist and often stare with eyes open. If operated upon they will often cry out but will have no recollection of pain. Upon awakening, he will tell of some harrowing dream. With this type we try to have them think of something pleasant and attract their minds from themselves. Often in doing so, we take them through the anesthetic without much unpleasantness to themselves.

Nitrous oxide tends to produce exhilarating and pleasing sensations. Experiences of patients vary according to their temperaments and their mental and physical conditions. A healthy, normal person usually has a pleasant experience. We find that the dreams of a patient are often directed by some pleasant remark before induction. Care must be taken that no extracted teeth, fillings or fragments of teeth fall into the throat and enter the trachea. As a precautionary measure, we pack the posterior part of the mouth with cotton or gauze packs and

have the mouth prop in place. Tongue forceps are always lying on the operating table ready for instant use. Ninety-five percent of people are nose breathers. Induction is generally accomplished through the nasal breathing tube alone, but we use the mouth inhaler in some cases where nose breathing is impossible.

As an element of danger accompanies all anesthetics, it might be well to mention some dangers here. The first is an overdose of gas marked by a rapidly deepening cyanosis and stiffening of muscles, and often by a cessation of breathing. The breathing, for that matter, may be stopped suddenly at any stage of the anesthesia by the tongue dropping backward or being forced back by the packs, or even by the fingers while operating. Usually breathing will start immediately when the tongue is brought out of the throat. Should the patient fail to breathe reasonably soon, pull the tongue forward and administer artificial respiration; place the patient in a recumbent position and force oxygen. It has been our experience in all cases of cessation of breathing that the patient has recovered after the admission of even a small portion of air into the lungs. Most people will tolerate this anesthetic without much discomfort, especially if the respiratory tract is not interfered with by some influence that prevents it from functioning in a normal way. Goiter and nasal obstructions, such as adenoids, polypi, deviated septum, enlarged turbinate and paralyzed soft palate, often make nitrous oxide administration more difficult. In some severe cases involving these conditions local or conductive anesthesia is indicated.

I should like to say something about the manner in which people should be approached by the assistant. As we all know, the majority of people are very nervous and frightened when anticipating the extraction of teeth, so be very kind and pleasant to them. We find it hardest to get the confidence of children as they are told so many different stories about what is going to be done to them. We never try to force them into the chair because if you take the time, you can get their confidence and arouse their natural curiosity. In this way they will let you put the inhaler in close enough for them to become sleepy. In dealing with children you are dealing with the coming generation, so much depends upon your success in not hurting or frightening them. Cheerfulness and a smile at this time will encourage all patients. Let them know that others go through this and are highly elated with the results. Always be considerate and humane with them and make them have confidence in you and your ability. Let them know that you are going to treat them just as you would want to be treated if you were in their place and I will venture to say that ninety-nine out of every hundred will take the anesthetic with all

assurance of safety. Then it's up to you to see that their confidence is not misplaced. The vast majority of people, after taking nitrous oxide oxygen once, will be boosters for it ever after, and we are giving suffering humanity a real service that cannot be estimated in dollars and cents.

Instruments should never be gotten out before a patient. Have them on a tray in your sterilizing room so that they may be gotten quickly after the patient has become sleepy. Then always have all instruments, sponges and bloody cotton out of sight before the patient is conscious. In this way you do away with any unpleasant after-memory.

Nitrous oxide anesthesia is that type of general anesthesia in which the central nervous system, consisting of the brain and spinal cord, and the peripheral nervous system, consisting of afferent nerves and efferent nerves and tactile end organs, are brought under the influence of the anesthetic. Complete anesthesia is divided into three distinct stages: the stage of induction, the stage of maintenance and the stage of recovery. The stage of induction is further divided into three periods: the period of excitement, cerebral and muscular, the period of rigidity and the period of relaxation. The stage of maintenance is not subdivided. The stage of recovery is further divided into two periods: the return of the reflexes and the return of consciousness. The stage of induction extends from consciousness to deep anesthesia; the stage of maintenance should begin just before operative procedure and should cease before the conclusion of the same; the stage of recovery is the inverse of the stage of induction. Induction anesthetizes the patient; maintenance keeps him anesthetized and recovery returns him to consciousness. The sense of hearing persists after the loss of smell, taste, sight and touch, therefore absolute quiet is necessary so as not to arouse a subconscious fear. The chief cause of recovery is the withdrawal of the anesthetic. We recognize two types of recovery: recovery by crisis and recovery by lysis. The recovery by crisis is that type of recovery in which the interval extending from the end of maintenance through the return of consciousness is very brief. Recovery by lysis is the opposite of that by crisis.

Anesthesia by nitrous oxide is characterized by muscular rigidity of varying intensity. This rigidity is sometimes noticeable in complete and otherwise satisfactory anesthesia. Some patients become very easily relaxed, others remain rigid, no matter how much the anesthetic is pushed.

When nitrous oxide is the anesthetic employed, the administrator must have the co-operation of the surgeon. With this anesthetic more than with any other agent the patient must be the criterion of the

mixture delivered. Signs and symptoms that appear and reappear with different individuals must be quickly grasped and identified by the administrator. He must be on the alert at all times as the symptoms of gas-oxygen change with great rapidity. We must make use of an apparatus which will be sufficiently elastic to meet these changes of state as they appear. We must be able to produce nitrous or oxygen effects without delay.

Complete anesthesia and a normal color are obtained only when oxygen is employed. Those who are familiar with gas-oxygen anesthesia but who have had some experience with nitrous oxide alone are very likely to avoid a pink color purposely, fearing that the patient will come out of the anesthetic. A good color is especially desirable where the best relaxation is required. The difficulty of properly judging the color in negroes excludes them from this method, unless special indications are present. The color of the patient is the only reliable index of the amount of oxygen which should be delivered. The surgeon must realize the conditions under which he must work. The anesthetist must realize the effects he can produce, must know when he has reached the limit and not persist in attempting the impossible at the expense of the patient and the operator. When induction has been completely brought about, the lid reflex will be sluggish and slight muscular movements of the limbs occasionally occur, but as a rule the patient is absolutely quiet. When anesthesia is fully induced the globes are fixed, looking forward, downward or upward. During the stage of maintenance the light reflex is active; the corneal reflex is always snappy.

From the anesthetist's standpoint this is the most difficult of all anesthetics to administer, but to one who is interested in the art of anesthesia this method is very fascinating. The recovery in a case of gas-oxygen anesthetic properly administered is a triumph in itself. From the point of view of the patient this method is the most satisfactory yet devised. After-symptoms are conspicuous by their absence. To see a patient pass in from one to two minutes from a stage of deep anesthesia in which he has been maintained to complete consciousness is a marvel of present-day anesthesia.

212 Farmers Trust Bldg.





No Literature can have a long continuance if not diversified with humor—ADDISON

(Willie)—Pa, what's a pedestrian?

(Pa)—The owner of a second-hand automobile.

Hint for League of Nations delegates: Look around now and choose the exit nearest you.

A noted financier was taken seriously ill when 90 years old, and felt that his end was near. "Nonsense," said the doctor, "the Lord isn't going to take you until you've passed the 100 mark."

"No, my friend," said the aged banker, "that wouldn't be good finance. Why should the Lord wait until I reach par when He can pick me up at 90?"

In a court case not long ago, the Frenchman's description of a bathing dress was referred to, viz.: "Something that begins nowhere and ends at once."

So drive today that your name will not appear in the obituary column tomorrow.

(Jackie)—Pop, what's a wizard?

(Pop)—A man who can read his paper in the same room with a boy about your age.

"Hum," murmured the doctor absently, as he cut into his restaurant steak; "Hum, patient very senile, with extreme hardening of the tissues."

(Office Boy)—The boss can't see any one today.

(Caller)—Oh, well, tell him I hope his blindness is only temporary.

Men are little good around a house till something needs to be a fixed. . . . Then they're no good at all.

England and France have not gone in for paper money because they need the paper to write notes to each other.

You can fuel some of the people all of the time, and you can fuel all the people some of the time, but you can't fuel all of the people all of the time.

A good husband is one who feels in his coat pocket every time he passes a mail box.

(Jess)—Why didn't you recognize me when I passed you on Broadway yesterday?

(Tess)—I didn't see you.

(Jess)—That's strange; I saw you twice.

(Tess)—Well, that accounts for it. I never notice a man in that condition.

After much excitement the Smiths had at last managed to catch the train.

Now, when they could sit quietly for a while, they began to wonder if they had left anything behind.

Mrs. Smith gave a shriek.

"Oh, Harry," she gasped, "I forgot to turn off the electric-iron!"

"Don't worry, darling," he replied, "nothing will burn. I forgot to turn off the shower-bath."

(Ted)—Why take Tom along with the bunch? I never knew him to buy anything.

(Ned)—Neither did any one else. But he knows where you can get it.

Prof. Steinmetz says that no one should work more than four hours a day. For himself, he tells us that he has reduced his working time to one-half hour each day. This, he says, leaves him twelve or fourteen hours spare time to mess around with his hobby, which is engineering.

October is a nice month to go fishing. Herewith are some dandy tips to follow if you have no particular plans of your own:

Dive down to bottom of stream; tell bed-time story; fish go to sleep; grab fish before they wake up and tie in bunches.

Or, fasten mirror on line; fish see how they look and laugh themselves to death; gather in baskets.

Or, dash madly up the stream shouting: "I am Bryan, and drunk as a monkey ancestor;" haul dead fish away in trucks.

Or, borrow a couple of elephants from the Zoo; take them along and let them drink the stream dry; shovel up the fish and send what you don't want to nearest market.

DIETETICS and HEALTH

A Lost Art

(NOTE—For the benefit of those people who do not live in the “pie belt” we print the following article to show what they miss through their lack of knowledge concerning the gentle art of pie-making. It was recently published in the columns of our genial old neighbor, the *New York Tribune*, who wouldn’t for the world give it space if it were not the exact truth.)

Of all pies, the best is the last one that excels all others that ever were built. Rosb’ry, Blueb’ry, Strorb’ry, Gooseb’ry; what’s the odds—all berry pies, all meat pies, all vegetable pies, all fruit pies—all good. I can’t eat ’em as I could once; but all the same they are as good as custard. I’d as soon have pie as tongues and sounds.

Of course this relates to a certain pie, for what’s the use of discussing a subject in 500 words as to Pies-in-General that would require a volume of 60,000 words to exhaust their excellences? Nobody knows who invented pies. The etymology is from the Gaelic “Pighe,” a pot; there is the word “piggin,” also a pot. Our old Irish friends know those sweet old words. There is another use of the word “pie”; viz., to paint; to fleck over, as the “pied horse,” the pied piper. Maybe the pie was so beautifully ambered, browned; dealt with lovingly by transcendental hues of angels, brown and tawny angels molting, that they gave it this sweet name from its alternations of gold and brown and sunset hues as of the gods leaning against the bars of heaven to let the golden glory in.

Now I have directly in mind this moment a certain form of pie construction that was once esteemed as the ambrosial limit of goo-goo-googliness in succulence and mouth-wateriness. I water my typewriter with tears for lack of it. But don’t send me one. Nobody can restore the Temple of Saturn; nobody can build one of these pies, for *she* who knew is dead; forty years the flowers have bloomed where she sank to rest. It might disturb her also to have competitors.

This pie was made of apples. I will not say dried apples, for you will not understand; but so it was, and I will not lie. But dried apples that we cored and carved and hung amid sweet thyme and herbs in rows under the eaves of the lavender attic are not commercial—they

are elysian. They were as big and ruby as good French fried potatoes and as sweet inside as winter Sopsey-Vines—if there were ever such a thing.

It was made early in the morning, I warrant; and when it was made there was ardor in the crust, and sweetness was in the disposition of loving tenderness that entered into its architecture. It was fluted and bedecked outwardly; inwardly it was high, full, made like a feather bed in rotundity and leveled off into a terrace of flaky crust that swept downward to the rim like silver seas on coral shores. When the substructure was founded and the roof was ready to be flipped on by deftness into a position as secure as a bridge, then the butter and the cinnamon and the spices and the butter again and the cinnamon and the salt and the little evidences of added forethought, of which I am not so certain as I am of the certain pie, were laid tenderly with benedictions in the casket of perfected cookery, and over it as gently as "a soft ear is laid" upon the violin was poured—*what?* Not sugar—but molasses. That's the secret; good old Hibuckarebo. Golden syrup; New Orleans molasses—best cooking stuff ever devised and now a lost art, as I see cookery.

The top went on, of course; the pie went to the oven; it was estimated to the fraction of the shake of a lamb's tail as to timing; it emerged—juices just trickling to the edges to make sugar candy of ruby on the periphery; bubbling and frothing in pride at its own excellences through its red-lipped loveliness; articulate pie! Alert and roseate pie! Certain pie! Fragrant as summer gardens; ripe as a summer sweeting; attar of roses through the house.

Notions and Nerves

A woman came to Dr. Paul Dubois, the French authority on psycho-therapeutics and told him that she could not endure the odor of flowers.

If she went into a room where there was a vase of flowers—any kind of flowers—she grew deathly sick and even sometimes fainted.

On her second visit to his office (says "Healthy Home") Dr. Dubois had placed a large bouquet upon a table in the center of the room. As soon as the lady caught sight of the flowers, she gave the doctor a reproachful look and fainted. When she revived he insisted that she approach and smell the bouquet. She remonstrated vigorously.

He insisted that if he was to help her she must follow his directions and carry out the treatment he prescribed. Finally she walked to the

table and gingerly sniffed at the flowers, only to discover that they were artificial.

It did not need much explanation to show her that her ailment was entirely of her own creation and existed only by virtue of her mental attitude, even though serious physical symptoms followed.

When it comes to success and efficiency, innumerable people are the slaves of inhibitions that keep them from filling the place in the world of action to which their natural ability would entitle them.

This is only another illustration that he can who thinks he can, and he can't who thinks he can't.

Vitamin Storage in the Body

There is at present a fairly general acceptance of the view that the vitamins cannot be synthesized by animal tissues; consequently we are dependent on extraneous sources of these food factors. While it is commonly asserted that the vitamins are indispensable essentials for nutrition, it must be frankly admitted that there is considerable uncertainty involved in the evidence at present available, according to the *Journal American Medical Association*. One species of animal will apparently thrive on a food mixture which leads promptly to deficiency symptoms in another. For example, the rat, which has been employed so widely in recent years for experimentation in relation to dietary essentials, may grow well on diets which speedily lead to scurvy in the guinea-pig, even under comparable hygienic and environmental conditions.

How are such seemingly conflicting facts to be reconciled with any hypothesis of the indispensability of the vitamins for well-being? The foremost suggestion is that not all of the now recognized types are essential to all species of animal organisms. So far as has been ascertained, vitamin B seems to be required in some measure by all; but there are indications of very unlike needs not only of vitamin C—the antiscorbutic factor—but also of vitamin A. This is perhaps no more surprising than the marked differences in the susceptibility of various species to certain infections, and their variable equipment of protective “immune bodies.” The possibility that some species are able to synthesize vitamins to a degree impossible for others has little to commend it; in fact, it seems contrary to all biologic probabilities.

New light has been thrown on the questions at issue by the demonstration that the fat-soluble vitamins, at least, can be stored in some measure in the body. Consequently, individuals may continue for

some time to thrive on a diet admittedly poor in these food factors. According to the studies of Steenbock, Sell and Nelson of the University of Wisconsin, the liver appears to be an important center of this storage, varying in its content of the fat-soluble vitamin with the ration fed. An organism may thus become so enriched through an earlier dietary regimen that it can continue in health for some time on the "accumulated surplus."

These findings afford another illustration of how proper living helps to fortify us against exigencies that may come without anticipation or defense. Like our "infectious past," our "nutritive past" may mean much for future welfare.

A Good Thing to Know

Watercress as a side dish for lunch is well known in most households, but few people eating it were aware that it contained all the essential vitamins until this fact was stated by Dr. Harold Scurfield at a Medical Association meeting recently. He advocated a more extensive use of the vegetable and said that the Greeks regarded it as food for the mind, while today it was regarded as a stimulant for the body.

This recalls a favorite experiment of Prof. Vivian B. Lewes, explosive expert. When lecturing he used to fill a glass jar with watercress, take it to Greenwich Hospital and leave it on the roof in the sun's rays. The next week it would be brought back to the lecture room, the cover removed and a light placed near the opening, with the result that a deafening explosion occurred. This proved, according to the professor, that watercress was composed of pure oxygen, and therefore very beneficial to the human system.

Movie of An Aching Tooth

An aching tooth in action is the latest subject for the movies in France. It is in a film used in a crusade to improve the teeth of the people. The film pictures a throbbing nerve in its most excruciating stages, and those who saw the picture attest to its vivid accuracy.



CURRENT LITERATURE

The Thinker on His Way*



In all the learned pother incident to the mastery of the phenomenal, the furniture of the world of the senses, it is as if the self in man, the Thinker, sat secluded in a six-walled tenement, and hence six times removed from the subject of his study, and endeavored to interpret that which appeared to his vision. And thus, thinking that what he sees is the only reality, he remains in inglorious ignorance of the reality of that upon which he himself rests, unconscious that the tunnel-shaped aperture through which he peers leads not outward, but backward and within to the habitation of the real of which he himself is a part.

The question of dimensionality is solely a concern of the objective or brain-mind which is the intellect. It is one of the ways in which the intellect endeavors to understand phenomena. Having apparently exhausted the possibilities of motion in three dimensions, and being driven on to the acquirement of more picturesque views by the very necessity of its continued growth, it has betaken itself to another higher mountain peak, called "hyperspace."

Hyperspace is one of the illusions of the phenomenal; it is the dress which the intellect has superimposed upon a single nuance; it is a mask which is an exact replica of the mood of the intellect. Yet through this mask the intellect grandly hopes to approach reality. The period through which the mind is now passing is a repetition of the evil days of scholasticism, when men set out to determine the exact number of celestial beings that could be perched upon the extremity of a needle-point. It is a time when men's minds easily assume grotesque and hideous shapes and their thoughts become the embodiment of fantastic entities. The exclusive occupation of such minds becomes the fabrication of mathetic monstrosities which rapidly dissolve upon the first approach of the real or the appearance of the first ray of intuition which

*From "The Mystery of Space," by Prof. R. T. Browne.

may escape through the dim and misty condition of the intellectual over-hangings. It will not be ever thus; for the Thinker will one day pass from a study of the arrangement of phenomena in space and by well-ordered steps come once again to himself. And then through the maze of it all set out upon the true path—the tridimensionality of space, following which he will inevitably approach the citadel of the real—the kosmic space-mind.

Dental Service in Industry

The close relationship between certain industrial diseases, notably lead poisoning, and diseased teeth was one of the moving causes for the survey made during 1921 by the division of hygiene and engineering of the Pennsylvania department of labor and industry to determine the extent of dental service for employees in industrial plants in the United States and Canada.

Replies were received from fifty-nine industries, ranging from 12 in Pennsylvania, 11 in Ohio, 8 in New York, 6 in Massachusetts, 4 in Illinois, 2 each in Michigan, Minnesota, New Hampshire, and one each in Alabama, California, Colorado, Connecticut, Delaware, Louisiana, Maine, Missouri, Rhode Island, Virginia, Wisconsin, and Ontario, Canada.

Thirty-three plants employing 209,743 reported that total number of employees taking advantage of dental service were 125,222 or 59.7 per cent. Fifty-nine plants employed dentists, 40 for full time.

From the replies of fifty-nine firms as to the number of assistants in the dispensaries, it was found that 75 nurses, 26 attendants, and 26 clerks were employed in all the plants for dental service.

The average cost of original dispensary equipment to the fifty-three firms replying to this question was \$1,958.03; the least cost of equipment in one plant was \$328.28; the greatest cost was \$8,000; while the total cost in all plants was \$103,775.46. Cost of operating the dispensary per year per patient was,—average cost \$3.38, least cost \$0.30, greatest cost \$27.19.

Treatment given in the dispensaries circularized consisted of examination in 100 per cent of the plants; cleaning of the teeth in 96.4 per cent; radiographic work in 44.6 per cent; emergency treatment in 89.3 per cent; and examination, cleaning, radiographic, emergency, and operative work not emergency work in 30.4 per cent of the plants.

Fifty-five of the 56 firms replying stated that they considered the operation of an industrial dental dispensary a success; one considered it only partially successful.—*The Nation's Health*.

FUTURE EVENTS

THE ST. LOUIS STUDY CLUB OF DENTISTRY will open its 1923-1924 term in October with classes in Removable Bridge Work, Fixed Crown and Bridge Work, Porcelain Technic, Inlays and Cavity Preparation, Full Dentures, Root Canal Technic, Periodontia and Local Anesthesia, Radiodontia, and Pathology and Bacteriology.

Those interested either in enrolling in this Study Club or in organizing and conducting a Study Club in their own community should address the Registrar, Dr. Edgar M. Carson, 1119 Union Boulevard, St. Louis, Missouri.

The first regular meeting of the season 1923-24 of the EDUCATIONAL AND EFFICIENCY SOCIETY FOR DENTAL ASSISTANTS, FIRST DISTRICT, NEW YORK, will be held on Tuesday, October 9th at 8 P. M., at the Academy of Medicine, 17 West 43rd St., New York City.

All members are urged to attend and to come prepared with suggestions for the carrying on of the work undertaken by the society for the education and advancement of its members. An outline of the plans for the coming year will be presented and discussed, and members will be enrolled for the classes to be formed for instruction in the various phases of dental assisting. Reports of the activities which have taken place since the May meeting will also be given.

Dental assistants interested in this organization are invited to attend the meetings which are held the second Tuesday of the month, and to communicate with the Secretary, Miss Mae L. Bennett, 104 East 40th St., New York City.

THE SUSQUEHANNA DENTAL ASSOCIATION OF PENNSYLVANIA will hold its 60th Annual Meeting at Hotel Bethlehem, Bethlehem, Pa., October 17, 18, 19, 1923. George C. Knox, Recording Secretary, Middletown, New York.

R. M. WALLS, Bethlehem, Pa.
Chairman of the Executive Committee.

The annual Fall three-day meeting of the ODONTOLOGICAL SOCIETY OF WESTERN PENNSYLVANIA will be held at the William Penn Hotel, Pittsburgh, Pennsylvania, November 20, 21 and 22, 1923. The meeting will consist of exhibits, papers, progressive and table clinics.

LESLIE WADDILL, D.D.S., *Secretary*.

THE STATE BOARD OF REGISTRATION AND EXAMINATION IN DENTISTRY OF NEW JERSEY will hold its regular examination at Trenton, N. J., December 3rd to 7th, 1923. License fee, \$25.00; re-examination fee, \$10.00.

Practical tests required: Insertion of an approximal gold filling with the approximating tooth in position, compound approximal amalgam filling and a silicate

filling; candidate must furnish his own patient. Taking of impressions, bite, selection of teeth, articulation, trial plate; candidate must furnish his own patient. Practical examination in mouth diagnosis.

Attention is directed to the following quotation from the dental law of New Jersey: "Applicant shall present to said Board a certificate from the Commissioner of Education of this State, showing that before entering a dental college he or she had obtained an academic education consisting of a four-year course of study in an approved high school, or the equivalent thereof."

In accordance with this law the secretary will issue application blanks only upon presentation of the required certificate from the Commissioner of Education, State House, Trenton, N. J.

Application must be filed, complete, ten days before the date of the examinations.

Address all communications for further particulars to

JOHN C. FORSYTH, *Secretary*,
429 East State St., Trenton, N. J.

THE CONNECTICUT DENTAL COMMISSION will meet at Hartford, Connecticut, on December 6th, 7th and 8th, 1923, to examine applicants for license to practice dentistry and dental hygiene and to transact any other business proper to come before them. For further information apply to Arthur B. Holmes, Recorder, 63 Bank Street, Waterbury, Conn.

The fifty-seventh annual meeting of the TENNESSEE STATE DENTAL ASSOCIATION will be held in Chattanooga, on May 5, 6 and 7, 1924. For all particulars address Dr. Joe Minor, Sec'y-Treas., Lambuth Building, Nashville, Tenn.

DR. C. E. BYINGTON, *President*,
James Building, Chattanooga, Tenn.

